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Cover: **The cover depicts elements of the ARNG Aviation Program that operate from 99 aviation facilities located in all 50 states, the District of Columbia, Puerto Rico and the Virgin Islands. The NGB Army Aviation Division provides centralized management of the program through four branches. The Eastern and Western ARNG Aviation Training Sites (EAATS and WAATS), located at Indiantown Gap, PA, and Marana, AZ, conduct NGB directed aviator and instructor pilot qualifications that are not within a state's or unit's capability or authority.**

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Major General Ellis D. Parker
Chief, Army Aviation Branch

Army National Guard Aviation

THIS ISSUE OF the *Aviation Digest* will focus on the Army National Guard (ARNG) Aviation Program. The Guard, with an established aviation logistics support base, has been adding to the aviation training side of their total program over the past decade. The cover locates the two ARNG Aviation training sites, which are now operational. A high-altitude mountain training site soon will be activated as an extension to the Western ARNG Aviation Training Site in Eagle, CO. The ARNG is now operating a warm base in Brussels, Belgium, as a vital part of the National Guard Bureau-U.S. Army Aviation Systems Command aviation maintenance depot roundout program. Small cells of National Guard persons from the ARNG aviation classification repair activity depots (AVCRADs) rotate on a monthly basis. While at the Brussels' AVCRAD, they perform real-time maintenance or component repair for the U.S. Army, Europe aviation community.

This would be an appropriate time to add my congratulations to the 1-130 Aviation, North Carolina ARNG, in recognition of their amazing performance while fielding the first ARNG AH-64 Apache battalion. The Army Aviation Association of America selected them as the ARNG Aviation Unit of the Year for their training, safety, maintenance and esprit de corps exhibited over the past 2 years. Their performance was equal to that of the Active Component counterparts going through Apache fielding. The significance of this motivates all other units going through this rigorous training program.

Other articles in this issue include drug support efforts by ARNG aviation, noncommissioned officer training accomplishments, ARNG participation in the World Helicopter Competition and more.

The ARNG Aviation Program offers a substantial war-fighting capability for the total force. We can be justifiably proud of its accomplishments and readiness posture.

illustration by Bob Rosenburgh

Total Force Aviation

Major General Donald Burdick
Director
Army National Guard
National Guard Bureau

THE ARMY National Guard (ARNG) has changed dramatically since then Secretary of Defense Melvin Laird introduced the Total Force policy. In virtually all mission areas, the ARNG is receiving modern equipment and has increased mission responsibility. Modern equipment, however, is but a portion of the total readiness equation. Combined arms training, employing the tenets of AirLand Battle, is key to mission success on the battlefield of the future. A visit to an attack helicopter unit on a weekend training assembly, or a visit to an Army Aviation support facility (AASF), will allow you to witness first hand the scope and magnitude of change. Such a visit will demonstrate that Total Force modernization is a wise investment of the defense dollar.

A lone UH-1 Huey, flying from point-to-point on an administrative support mission, is the mental image many have of a typical Guard aviation mission on weekend training. That image clashes radically with the training schedule of an air cavalry squadron that routinely conducts troop- and squadron-level combined arms training with the mechanized infantry and armor elements of counterpart squadrons. Given the volume of coordination and intricate planning that is required, it bears little resemblance to the image of a single ship UH-1 mission. Yet integrated combined arms training is the norm in most ARNG combat aviation units.

The 107th Regimental Aviation Squadron (RAS) of the 107th Armored Cavalry Regiment, Ohio ARNG, typifies ARNG combat aviation unit training. The 107th RAS is organized with four maneuver squadrons: mechanized, armor, aviation and reconnaissance. Routine weekend training places elements from each squadron in a task-organized troop acting as aggressor against another task-organized troop maneuvering to the objective. Training is conducted in a lane scenario that incorporates Army Training and Evaluation Program tasks for all maneuver elements.

The 107th RAS is often tasked as the maneuver headquarters with mechanized infantry and armor assets assigned. Aviation unit commanders and staff must use innovative planning techniques, since executing one weekend assembly while planning several others occurs simultaneously. Planning for a November weekend training assembly starts with commander's guidance to the staff on the August training assembly. In the September training assembly, a standard five paragraph field order is issued and the logistical annex is finalized. In October, final staff coordination takes place. Between August and November, weekend training takes place on other training scenarios, while planning for the November assembly continues.

On Saturday afternoon of the November training assembly, the RAS commander conducts a reconnaissance in sector and hasty attack. Selected elements of all maneuver forces are equipped with multiple integrated laser engagement system/air ground engagement systems. Saturday night, the same scenario is played again with tank, armored personnel carrier and aircraft crews operating with night vision devices. Sunday afteraction reviews ensure that lessons learned are disseminated to all squadrons of the regiment.

Conducting combined arms training, as described above, requires a crewmember well grounded in flight fundamentals. It also requires a maintenance support base capable of providing aircraft to meet both combined arms and individual training needs. Why is the ARNG uniquely suited to meet the demands of maintaining, training and sustaining a Reserve Component aviation force? We must look at the integrated infrastructure developed over the past 20 years. The modern facilities, seasoned trainers and maintainers provide the nucleus for a self-sustaining program that complements other components of the Total Force.

The ARNG concept of aviation training and maintenance operations—that of units collocated for efficiencies of scale in aircraft maintenance and aviator training—was developed after the Korean War. This concept was tested during the turmoil of the Vietnam era and the Aviation Requirements for Combat Structure Army—ARCSA III—reorganization. Over time, it has proven to be effective, setting a record of success with all types of aviation units.

The AASF, ARNG aviation training site (AATS) and aviation classification repair activity depot (AVCRAD) are the key infrastructure elements that support ARNG aviation operations, maintain equipment and train aircrews. Every state, the District of Columbia, Puerto Rico and the Virgin Islands have at least one aviation facility. Four AVCRADs provide maintenance support to AASFs on a regional basis. Augmenting the U.S. Army Training and Doctrine Command and the AASFs, two AATSs, located in Marana, AZ, and Indiantown Gap, PA, provide individual crewmember training in mature aircraft systems. Separate articles in this issue address AVCRAD and AATS facilities in detail.

An ARNG AASF provides centralized training support, aviation unit maintenance (AVUM) and limited aviation intermediate maintenance (AVIM) for all assigned units. An AASF contains two work centers, operations and maintenance, each composed of a work force tailored to the requirements of supported units. Manning levels are based on pilot and crewmember density, aircraft density and optempo and type of supported unit. To ensure that the wealth of employee experience is available in war-

illustration by Bob Rosenburgh

time, all employees must be members of a unit that the AASF supports.

A typical AASF operations cadre is composed of the commander, safety officer, instructor pilots, aviation life support technician and flight operations specialist. Until 1985, all instructors were Department of the Army civil service military technicians. In 1985, instructor pilot spaces were established as Active Guard Reserve (AGR) requirements. Congressional action prohibits conversion of civilian spaces to AGR; therefore, as civil service instructors leave the workforce, AGR replacements are hired.

A commissioned or warrant officer heads the AASF maintenance work center. This person supervises the full spectrum of AVUM and AVIM maintenance. All fulltime maintenance personnel are civil service military technicians. Maintenance work force stability and competence are the backbone of the Guard aviation program. Several facilities have technicians who have cared for the same aircraft for 10 or more years. Such continuity generates tremendous levels of care and pride of ownership in the maintenance community.

Four AVCRADs provide aviation intermediate and limited depot maintenance support to AASFs on a regional basis. These AVCRADs are located in Fresno, CA; Springfield, MO; Gulfport, MS; and Groton, CT. Besides their premobilization mission of ARNG support, each AVCRAD has an Army Materiel Command mobilization mission. Three AVCRADs provide support to deploying forces, while the Missouri AVCRAD deploys to the outside continental United States AVCRAD.

ARNG aviation is one of the successes of the Total Force policy. The synergistic effect of dedicated citizen soldiers, challenged with well-planned combined arms training supported by a nationwide training and maintenance base, is one of the best values in Army Aviation today. ARNG aviation is producing combat-ready units while serving our nation's needs in peacetime. The ARNG, your Army, is on call.

National Guard Bureau Military Support to Civil Authorities

A Long-standing Mission with a New Dimension

Brigadier General William A. Navas Jr.
Deputy Director
Army National Guard
National Guard Bureau

AS AMERICA has worked to come to grips with the ever-growing problem of drug abuse, two factors have become clear. First, drug abuse crosses all socio-economic boundaries and professions within American society. So, all Americans must join in the search for solutions to reduce and ultimately eliminate the "demand" for illegal drugs. The *demand* will not go away by itself or by requiring government offices, organizations and agencies merely to inform the public about the adverse impacts of substance abuse.

Second, we must stop the "supply" side of drug abuse while we work to eliminate the *demand* for illegal drugs. The flow of drugs recognizes no national or state boundary, nor is it limited to any one means of transport. Within the United States itself, the ever-increasing cultivation of marijuana has reached such proportions that growers could move into the export business. The almost unbelievable quantities of these illegal *supply* side activities has forced officials to demand a coordinated national effort to put an end to the tragedy that substance abuse brings.

Recognizing the need for such a coordinated effort, the 100th Congress has required the Department of Defense (DOD) to become more involved in the "war on drugs." The Congress, through the Drug Omnibus Bill and the Appropriations Act for Fiscal Year (FY) 1989, has made plain its insistence on coordinated efforts between federal and state

law enforcement agencies and the military to ensure the best use of the assistance DOD can provide. Going one step further, Congress' passage in 1988 of Public Law 100-456 authorizes an "enhanced role" in drug interdiction and surveillance for the National Guard. This legislation results in possible increased requirements that may appear to be a new mission to some observers. However, to the Army National Guard (ARNG), it constitutes a new dimension to a long-standing mission.

The ARNG is tasked with a federal and state mission. One can easily relate to the federal mission, which is to provide trained Army and Air National Guard units capable of functioning as full members of America's defense community in time of mobilization. The long-standing state mission, but one of growing importance, places the National Guard Bureau (NGB) in a role of providing military support to civil authorities in times of emergencies. However, understanding the military support role can be challenging to even the most experienced.

Essentially, NGB units constitute the militia in a respective state. In that capacity, units may be called to "state active duty" when the governor declares an emergency. Under those conditions, operational costs are the responsibility of the state. Federal funds may be used when the scope of an emergency requires federal involvement. The Mount Saint Helens' eruption-disaster in Washington serves as an example of an emergency requiring federal involvement.

Many examples are like Mount Saint Helens wherein National Guard units have rendered support in the state mission role. Typical support missions have included search and rescue, aerial food and medical distribution, evacuation of critically ill or injured and neonatal transport in remote areas. Tornadoes, floods, forest and range fires, severe snow and ice storms, drought, power outages, chemical spills or fires and catastrophic transportation accidents often afford National Guard units an opportunity to apply their military skills.

Such support by ARNG units to federal, state and local civil authorities continues to increase. Requests from the respective governors continue at a high level. In the past few years, the ARNG has responded to a variety of emergencies throughout the states and territories, assisting communities in the protection of life and property, and in the preservation of peace, order and public safety.

In FY 1988, support operations were conducted in 52 states by more than 8,000 Army and Air National Guard members. More than 77,550 mandays were used to support 1 civil disturbance, 72 natural disasters and 279 emergency situations.

National Guard military support to civil authorities in times of emergencies has contributed not only to the community but has provided an opportunity to sustain and improve upon the public image of the military in general. That support has required extensive "pre-mission" communication and operational coordination with federal, state and local governments, the respective emergency management offices, and their law enforcement organizations, to be successful. Such coordination displays the professional nature of the ARNG and the military to those involved. In return for this support, ARNG units have gained invaluable leadership and staff coordination experience that can be applied to traditional military organizations. In many situations, the traditional National Guard members are provided opportunities to apply their engineering, transportation and aviation military skills. Nearly all experiences can be adapted to support drug interdiction and surveillance programs without great difficulty.

A brief look at the growing participation will reflect NGB's contribution to, and experiences in, the overall national effort. During 1983, NGB units in only four states of the continental United States (CONUS) provided support of drug operations. The Hawaii National Guard (considered outside CONUS) has been involved since 1977. That number grew to 32 in 1988 when law enforcement operations involving NGB support resulted in the confiscation of 727,041 marijuana plants, 77 tons of processed marijuana and 2,270 pounds of cocaine with a combined street value of $1.3 billion during 1988.

Apparently, a national effort is underway in the drug enforcement arena. The Congress has expressed a determination for a coordinated national effort. The ARNG is committed to support that determination while the federal mission is sustained. Moreover, we will continue to support the longstanding state mission while we prepare, through experience and planning, for the new dimension of support for the national drug enforcement efforts.

In that regard, the ARNG Aviation Program has taken the added dimension in stride. While the challenges of drug enforcement efforts are significant, detailed planning, efficiently and safely executed by the ARNG aviation community, will enhance individual and unit skills, improve public perceptions of Army Aviation and ultimately enhance the national drug enforcement efforts.

Mr. Ron Eaton
ARNG Aviation Division
National Guard Bureau

Support to Drug Enforcement Efforts

An Added Mission Dimension for Army National Guard Aviation

ARMY NATIONAL Guard (ARNG) Aviation has accumulated a significant history since the early 1970s as it prepared for its federal mission. The following have contributed to a myriad of challenges to traditional ARNG soldiers and aviation units: Several reorganizations, along with new Army force structure programs; significant additions to individual and unit training requirements; and associated aircraft and equipment changes. The ARNG Aviation Program's success can be attributed in part to substantial investments in equipment, personnel and facilities by Congress, Department of Defense and the Army. However, traditional Guard members, committed to excellence, have developed the ARNG Aviation Program into a significant warfighting asset for the Army.

As the ARNG Aviation Program matured along federal mission lines, the Guard was able to continue to perform its state mission, when required. However, the state mission now has a new dimension focusing on drug enforcement. This added dimension brings new challenges to the ARNG Aviation Program for which the Guard is prepared. Nonetheless, we are moving with caution. The operational aspects of supporting the drug enforcement efforts within continental United States require much preparation.

The mobility and diversity of ARNG Aviation, in locations throughout the several states and territories, make it a significant asset for the support of drug interdiction and surveillance operations. Experiences gained through support of the historical state mission have provided the ARNG Aviation Program with a variety of skills that may be applied to drug enforcement efforts. Traditional Guard members have vested family, business and civic interests in their communities, which are being jeopardized by growing substance abuse.

Traditional Guard members within the states have not waited for a national effort. Their support of drug enforcement efforts, an added dimension, along with responsive support to the long-standing state mission, has been growing for some time. Numerous ARNG Aviation units have supported a wide variety of emergencies throughout the United States. Included are a response to the eruption-disaster of Mount St. Helens, WA, and support for officials of the 1984 Summer Olympics in Los Angeles, CA. Hawaii ARNG Aviation units have supported law enforcement domestic marijuana eradication efforts as part of the "Green Harvest" program for nearly a decade. In southern California, in 1988 one surveillance support operation, in which an OV-1

Mohawk aircraft was used, resulted in seizure of nearly 870 pounds of cocaine. More than 14,000 hours were flown in support of drug enforcement operations during fiscal year (FY) 1988. Nearly 25,000 hours will be flown in FY 1989 when current plans based on Public Law 100-456 are executed.

Apparently, this new dimension is much greater in scope than may have been predicted. The proposed increase of flying hours in FY 1989 for drug support operations represents a significant change from past involvement. It also brings a commensurate growth in risk. However, ARNG Aviation personnel are preparing for the increased involvement and the associated risks. They are taking a measured approach to training, are conducting pre-mission planning and are sensitive to coordination requirements.

To prepare for this new dimension, in January 1989 the National Guard Bureau's (NGB's) Army Aviation Division and Office of Military Support sponsored a national level training seminar. The seminar was designed to provide information that would enhance the safe and efficient use of ARNG Aviation in drug interdiction and surveillance support operations through—

- Increased awareness of NGB policy concerning support for drug enforcement operations and the proper use of ARNG Aviation assets.
- Improved understanding of federal agencies and offices and their methods of operations.
- Greater sensitivity to pre-mission planning and coordination requirements.

New Mexico Army National Guardsman tracking possible drug trafficking with Hawk missile system radar.

- Improved lines of communication among all agencies.

During the seminar, Major General Donald Burdick, director, ARNG, underscored the importance of ARNG involvement in the "war on drugs." He emphasized the need to become involved in "preserving a way of life for future generations." MG Burdick also stressed a need to increase the attention paid to the safe and efficient use of aviation. He also called for greater management involvement in pre-mission planning and coordination. The seminar also addressed NGB policy on military support procedures, public affairs and legal issues.

Law enforcement agencies and offices attending the seminar included: The U.S. Customs; the Border Patrol; the Department of Interior; the Drug Enforcement Agency; the National Narcotic Border Interdiction System; and the Maryland State Police. Representatives presented information on their organizational structures, planning techniques and lessons learned from operations. In addition, ARNG Aviation and military support officers from Florida, Georgia, North Carolina and Oregon related their ground and aviation experiences in drug support operations.

The seminar also highlighted differences between traditional military and civilian law enforcement operations. Based on ARNG experience and seminar discussions, it was apparent that the traditional military approach to mission planning was also valid in drug support operations. However, the nature of drug interdiction and surveillance operations is unique. The procedures used by civilian law enforcement agencies also

require that exceptional and detailed efforts be made before mission execution. These efforts must supplement, but not replace, routine pre-mission planning for aviation operations.

A brief description of the items requiring exceptional and detailed efforts provides insight into the complexity of the challenge. They include—

• *Defining the mission for each operation:* There must be a clear, concise mission statement to ensure the mission's success. This means making a clear distinction between "interdiction" and "surveillance" missions to avoid a blurring of objectives and the way they are performed. Interdiction missions for example are typically deliberate or straightforward, while surveillance missions are generally passive and less detailed in nature. Each mission has significant implications for training and equipment requirements. Adding to the complexity of drug support missions is the fact that the dynamics of the "drug war" can easily transform a passive surveillance mission into deliberate interdiction. Accordingly, preplanned contingencies must be fully considered when defining the stated mission.

• *Operational security:* This is perhaps one of the most sensitive areas for consideration. Information and operational planning must be closely guarded within and between all organizations on a need-to-know basis. Past experience with compromised operations and booby-trapped marijuana fields have clearly demonstrated the need for thorough operational security.

• *Chain of command:* Both military and civilian chains of command must be clearly defined for all phases of the planned operations. Participants must know who is in charge at any given time. This is especially important so that surveillance missions can become interdiction missions when the need arises.

• *Legal issues:* Relevant legal issues must be discussed and understood before the conduct of an operation. Personnel must understand the Posse Comitatus Act and the restrictions it places on ARNG crews besides the Federal Tort Claims Act. The chain of custody for evidence, probable cause and other factors must be considered.

• *Aircraft capabilities:* Is the aircraft appropriate for the mission? Day, night, speed and weight must be fully considered. Air-to-ground communications, the use of night vision devices and hoists and sling equipment requirements must be known before each mission. The expectations of supported law enforcement personnel must be fully considered. These personnel must receive a thorough orientation that ensures they are aware of aircraft capabilities, limitations and safety requirements.

• *Crew selection:* Aviation experience must be a top priority. Training programs must be compatible with the mission. Crews must be carefully selected with full consideration being given to the crewmember's civilian job. Experience as a law enforcement officer by ARNG Aviation personnel may be desirable for some drug enforcement support operations; however, care must be taken to ensure that military discipline is upheld during conduct of the mission.

• *Intelligence reporting:* Effective channels and formats for reporting information or intelligence must be established at the local level. Intelligence typically comes from passive activities. There may be occasions, however, when timely intelligence may result in "passive" surveillance being transformed into "active" interdiction by local law enforcement personnel. There is simply no room for inadequate lines of communication at any level. This is especially true when information that may be considered "intelligence" must be communicated between agencies involved in drug enforcement operations.

• *Public affairs:* Responsibilities for public affairs must be clearly stated during the planning phase. They must be adhered to throughout each operation. Information concerning the operation must be cleared with the appropriate law enforcement agencies conducting the operation before any release. Participants must adhere to specific public affairs guidance. They must know to whom media representatives are to be referred.

• *Training:* A review of typical mission scenarios and past experience does not reveal unique aviator training requirements. Many parallels to these missions can be drawn from air assault,

photograph by Tim Shea

New drug enforcement efforts facing many ARNG aviation units will be accomplished because these units can rely on a wide variety of emergency experiences that have been met and concurred in the past.

air cavalry and other aerial surveillance missions. This means that almost all tasks needed for successful drug interdiction and surveillance support operations can be found within the current aircrew training program. However, commanders must ensure all required tasks are identified.

Past experiences and comments from the seminar have provided ARNG Aviation officials with a framework to ensure a productive role in the war on drugs. Nonetheless, the ARNG Aviation Program must continue to review its role in the war on drugs. Lessons learned from operational experiences must be evaluated and, when necessary, applied to the development of improved policies and procedures. As the ARNG response to this new dimension increases, the ARNG will become more experienced with myriad of doctrinal and training issues related to providing drug enforcement support.

The complexity of the war on drugs will continue to require extensive coordination at federal, state and local levels. With timely and professional efforts, the ARNG Aviation Program will ensure the safe and efficient use of its aviation assets to support law enforcement drug interdiction and surveillance operations. At the same time, the ARNG will gain invaluable experiences that may be applied to low-intensity conflicts.

In the final analysis, wartime readiness will be enhanced and the national efforts in the war on drugs will be supported. This is especially true considering the restrictions under which ARNG support is permitted. One of the most common forms of support to law enforcement agencies has been aerial surveillance. A second has been aerial transport of law enforcement personnel to locations where they could respond to known or suspected drug threats. Aerial surveillance, for example, has been especially helpful in locating and pinpointing illegal marijuana crops grown in the United States.

Major William Shawn
ARNG Aviation Division
Chief, Multi Media Branch
Fort Rucker, AL

The Multi Media Branch

EXPERIENCING the spin of an OH-58 Kiowa during loss of tail rotor effectiveness...struggling through chest-high snow and bone-chilling 34-below-zero cold...sweltering in 120-degree desert heat...alone at 11,200 feet with only coyote tracks for company...and traversing in the gunner's seat of a ZSU 23-4...we were there. A short time later in the comfort of an Army National Guard (ARNG) flight facility briefing room, and through the magic of electronic imagery, the Guard aviation force was there as well.

Members of the ARNG Multi Media Branch (MMB), located at Ft. Rucker, AL, experienced the above conditions while producing television programs in support of ARNG Aviation. MMB developed those productions, along with other audiovisual and printed materials. These productions impact on about 6,000 aviators and 23,000 enlisted personnel by way of a learning center network. These learning centers are located at the 99 aviation facilities throughout the 50 states, the District of Columbia, Puerto Rico and the Virgin Islands. The mission of the MMB also encompasses supporting the ARNG Safety and Occupational Health program, with developed materials impacting upon the total ARNG force of more than 450,000 individual Guard members.

The branch is under the operational control of the chief, Aviation Division, National Guard Bureau, and the military control of The Adjutant General, Alabama National Guard. The United States Property and Fiscal Officer for Alabama provides logistical and fiscal support. The organization came into being on 24 August 1973 when Ft. Rucker approved an interservice support agreement and granted the organization official sanction as a tenant activity. In addition to providing physical support arrangements, the agreement allows the organization to work directly with Ft. Rucker agencies in preparing instructional materials.

The MMB develops training, safety countermeasure and special emphasis materials addressing the unique requirements of the Guard in standard audiovisual media and print formats, along with unique print formats through Government Printing Office contracts. This capability is possible because of a media-oriented staff; and a modern 4,300-square-foot facility housing a television studio and postproduction suite; videotape reproduction room; audio recording suite; photo lab; and a graphics shop. A television production van houses state-of-the-art, 1-inch video recording and editing equipment. Acquired in July 1988, it enables MMB to accomplish production missions on-location.

The MMB staff consists of five excepted civil service Guard technicians and one competitive civil service employee: a branch chief; two training specialists who manage the design, development, and implementation of aviation and safety programs; a visual information specialist who accomplishes all graphic art work; an audiovisual production officer who operates the television production van and inhouse postproduction video editing system, supervises audio recording

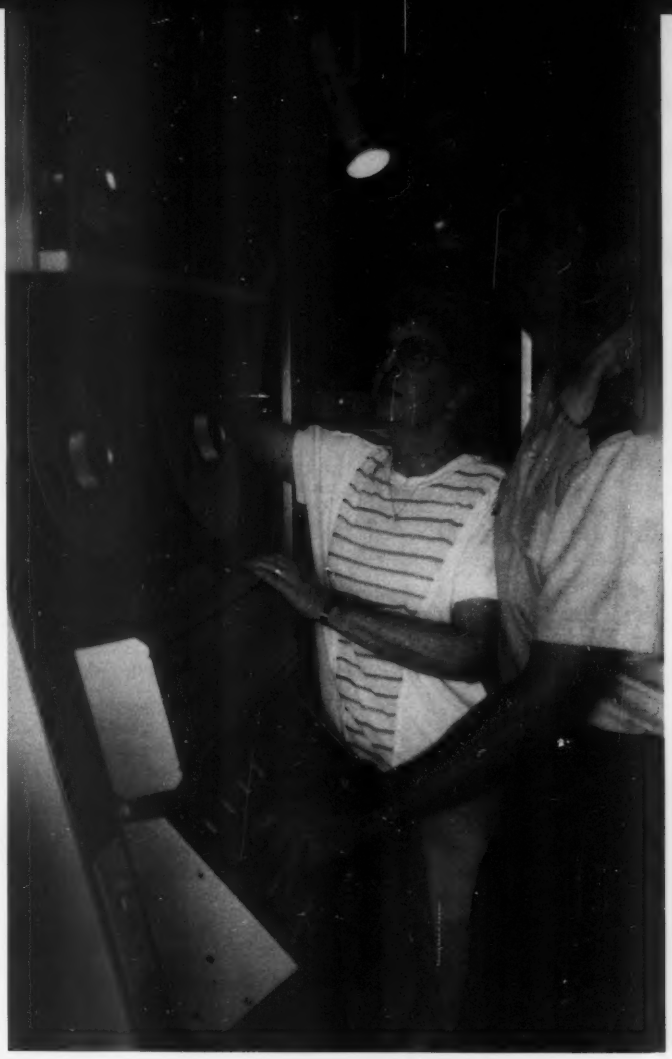
sessions and accomplishes all photographic work; and a media assistant who accomplishes administrative functions for the organization, mass reproduces video productions and satisfies requests for video programs from throughout the Guard structure.

The distinction between MMB and other audiovisual organizations is the ability to proceed from an internally identified requirement to the end of a fielded program. Examples of this are Aviation Accident Review and Information Update quarterly productions. Initial accident reviews, developed during the 1970s and early 1980s, were annual 35 mm slide/audio tape presentations.

Since 1984, quarterly television presentations have briefed the aviation force on different subjects: guard accidents; operations; maintenance; standardization; and aviation life support equipment. These quarterly reviews, with other audiovisual and printed materials, have played a significant part in the Guard's outstanding aviation safety record this decade. A record-low 1.00 class A rate was recorded for fiscal year 1988.

The success of the multi media program is due to different reasons: close personal communication channels maintained with the Aviation Division; State Army Aviation Officers (SAAOs); and commanders and aviation safety officers at the 99 aviation facilities and Active Army, governmental and industrial agencies.

Another important factor is the timely dissemination of information, enabling exceptional standardization throughout the Guard aviation structure. A final factor has been the stability and expertise of assigned personnel, with half of the present staff having functioned together since 1975. These same factors—effec-



CW2 Jules Hobbie, audiovisual production officer, and Mrs. Shirley Hughes, media assistant, enter MMB's mobile production van (right) to edit a production recorded on the vehicle's two Ampex VPR-3 1-inch recorders (above).

One of Mrs. Shirley Hughes' main responsibilities, as MMB's media assistant, is the reproduction of completed television productions in 1/2- and 3/4-inch formats for the entire ARNG structure.

CW4 Charles Turnipseed, safety training specialist, and CW3 Ron Swihart, visual information specialist, coordinate on the graphics for a future safety production.

tive communicative relationships, timely dissemination of information and expertise in personnel—greatly add to the success of the organization's safety and occupational health efforts.

The $461,000 television van acquired last July began a new era for the MMB. In 1986, two initiatives for major equipment acquisitions were submitted within the Department of Army Visual Information Systems Program. One was for updating our television postproduction system. The other was for a graphic computer system. Components of the initiatives began arriving in April. Once the systems are fully operational, MMB will have state-of-the-art television editing capabilities plus tremendously versatile graphic computer capabilities for television productions and standard graphic products. In addition to television systems being updated this year, most major audio and photographic equipment, some dating back to 1974, has been replaced. Thus by year's end, all of MMB's operating systems will be less than 2 years old and state-of-the-art.

Just as MMB is unique as an organization within the Department of Defense, so are many of its audiovisual and printed programs. An annual aviation safety countermeasure program, known as Safe-Flight, involves a television presentation, supplemented by recall devices to remind the field of the program's message. Key fobs in the shape of a stop sign with the message "You Can STOP Human Error Accidents" supported the 1984 program and are still being used with a majority of ARNG aircraft.

Other Safe-Flight programs have incorporated small flashlights that fit in flight suit shoulder pockets, luggage tags, crack-and-peel stickers and various other items. A really unique product fielded last year was large 5- by 20-foot all weather banners printed through a Government Printing Office contract. The words "It's Your Life" and "Make No Mistake," flanking a set of wings over a sky background, are now visible throughout the large maintenance bays of ARNG flight facilities. Another unique print product used to stress safety has been 5- by 10-foot minibillboards for display at aviation facilities, armories or field training sites.

Several times a year, or as deemed appropriate, the Aviation

Division chief, Mr. John J. Stanko Jr., shares important new information with the 54 SAAOs by way of television presentations. These enable each of the major aviation program managers to share in a "fire-side chat" with him at the same time. Other significant television programs fielded recently include the following: Weapons of the Soviet Union and Warsaw Pact Nations; Introduction to Snow Flying and Cold Weather Operations; and Mountain Flying and High Altitude Operations. The titles of these programs are indicative of the nature of productions produced by the MMB to fulfill audiovisual training material needs of the ARNG.

Captain T. Cowart, aviation training specialist, briefs the branch chief, Major William Shawn, on an upcoming quarterly aviation accident and information update production.

Last year, the aviation training specialist developed an effective communication course. He presented it to more than 400 maintenance personnel at 14 flight facilities in 6 states. The 8 1/2-hour program deals with improving communication and learning to effectively manage interpersonal relationships. The goal of this class is, as in the case with most material developed in the aviation program, the prevention of accidents and injuries.

The General Safety and Occupational Health efforts of MMB are equally important as its aviation efforts. In some cases, they may be even more important because they impact on the entire ARNG force. MMBs main general safety effort is an annual program known as the Safe-Guard Countermeasure Program. Designed to be viewed by each Guard member before attending annual training (AT), the main element is a television presentation that is also available in 16 mm film for large audiences. Supporting the audiovisual presentation, and designed to serve as a constant reminder of the program's safety message, is a plastic laminated calendar card reflecting the theme of the year's program. To ensure that most Guard members use them all year, an area is provided by each month for drill dates to be entered. Another area allows annual training dates to be recorded. Each fall, Guard members look forward to the new calendars so that they can keep up with their training dates.

A second support element usually has been a high-quality, crack-and-peel recall sticker given to all Guard members to again remind them of the year's safety theme and message. Stickers from the initial "AT 80–15 Days to Success" program are still seen throughout the Guard on lockers, desks and even briefcases. A last element of some Safe-Guard programs has been color posters. As in the aviation program, minibillboards stressing various safety subjects have been developed. Armories, maintenance facilities and training sites use them.

Other recent general safety contributions by MMB include a six-page color brochure in which Major General Donald Burdick, the director of the Army National Guard, outlined his safety philosophy to every officer, noncommissioned officer and supervisor in the ARNG. A television production featuring Sergeant Major Steven G. Blackwood, the command sergeant major of the ARNG, stressing noncommissioned officers' safety responsibilities, was provided to all states in April. These two programs reflect the sincere concern and emphasis given safety by the highest levels of the ARNG structure.

The MMB program has experienced significant evolution and growth since its inception in 1973: more operating equipment; total involvement in the ARNG Aviation and safety efforts; and increased emphasis at the National Guard Bureau level. Because of this growth, the future promises excitement and challenge for this unique organization.

Mississippi Aviation Classification Repair Acitivity Depot (AVCRAD), Gulfport, MS, was dedicated on 23 February 1989.

ARNG Aviation Classification Repair Activity Depots

In Support of the Fleet

Colonel Raymond D. Engstrand
ARNG Aviation Division
National Guard Bureau

Acknowledgement: Portions of this article were taken from the article "Aviation Classification and Repair Depots: Keeping the Army Guard Flying," by Belinda Reilly, which appeared in the August 1987 issue of National Guard. *Used with permission.*

THEY ARE UNIQUE; they are the Army National Guard (ARNG) Aviation classification repair activity depots or AVCRADs as most ARNG and Army Aviation personnel know them. Descendants of the old ARNG transportation aircraft repair shop (TARS), four AVCRADs support the 50 states, the District of Columbia and the territories of Puerto Rico and Virgin Islands. They are located in Fresno, CA; Groton, CT; Gulfport, MS; and Springfield, MO.

Three TARSs were established in the early 1960s to train Guardmen in general support maintenance. Guardmen worked on items sent to them by the Army depots. As the personnel in the TARSs developed expertise, the TARS mission shifted, in 1972, to support the Army Aviation support facilities (AASFs) in the states and became regional

backup. With this shift, a fourth TARS was added in Gulfport.

In 1977, the Department of the Army (DA) undertook a study called Project Aviation Depot Roundout. The study team found that, during mobilization, the following occurred: a shortfall in the capability and capacity of Army Aviation depot maintenance in the continental United States (CONUS); a need to assist deploying forces; and a requirement to project an aviation depot maintenance capability into an outside CONUS theater of operations. Therefore, in 1979, the four TARSs became AVCRADs and, along with a headquarters unit, the mobilization AVCRAD control element (MACE), were placed in the aviation depot maintenance roundout units (ADMRUs) program. The AVCRADS are operationally controlled out of the Aviation Logistics Branch of the ARNG Army Aviation Division at the National Guard Bureau (NGB). Upon mobilization, the AVCRADs would be transferred to the U.S. Army Depot System Command (DESCOM). The ADMRU program is a coordinated effort to provide continuous aviation maintenance support of critical aviation materiel in both peacetime and during wartime mobilization.

The premobilization mission of the AVCRADs is to perform aviation intermediate maintenance (AVIM) support and designated depot maintenance. The AVCRADs maintain Army aircraft, aircraft armament, aviation ground support equipment and associated components for the ARNG. They provide maintenance support for about 2,800 aircraft and their components in the ARNG inventory, which amounts to about one-third of the entire Army aircraft fleet.

Staffed by ARNG military technicians, the AVCRADs support their states and regions by repairing items shipped, or brought, into the AVCRAD or by sending out teams to work at the state AASF sites. AVCRADs also can do repairs that AASFs are not resourced to accomplish. AVCRAD personnel have special skills and they make those skills available to AASFs in the several states to provide backup AVIM services.

The first UH-60 undergoes major maintenance at the AVCRAD in Mississippi.

According to Colonel Edward C. Gruetzemacher, commander of the Missouri AVCRAD, the AVCRADs also provide logistical support and some airlift throughout their support areas.

Besides maintenance and classification work, each AVCRAD does special projects that are mutually beneficial to both the ARNG and the Army. The Mississippi AVCRAD was the designated OH-6 Cayuse helicopter rebuild and overhaul facility for the ARNG and other federal agencies using this aircraft. "In addition to our rebuild program, we also conduct an OH-6 transitional training program for mechanics from the AASFs," said Colonel Robert G. Johnson, commander of the Mississippi AVCRAD.

The Missouri AVCRAD is manufacturing special tools for the Army's use on UH-60A Black Hawk helicopters. The Connecticut AVCRAD has the C-7 Caribou training mission for both Active Army and ARNG pilots. In the future, the Connecticut AVCRAD will provide the sustainment training base for the C-23B Sherpa aircraft being introduced into the ARNG. The Army is turning over all the AVCRADs work on AH-1S Cobras to the Guard. The AVCRADs repair and sometimes even rebuild them, putting Cobras in top condition before turning them over to the Guard.

Gearing up for mobilization is one of the highest priorities at the AVCRADs. Upon mobilization,

the AVCRADs become depot activities that round out the Army Materiel Command (AMC). Besides manpower, the AVCRADs provide AMC with the increased capacity of the four AVCRAD facilities. The California, Connecticut, Mississippi and a detachment of the Missouri AVCRAD mobilize in place and serve as aviation depot roundout units. During the early stages of a mobilization, the AVCRADs provide backup AVIM and designated depot-level maintenance to deploying or deployed troops. The AVCRADs will send tailored maintenance and repair teams to locations prioritized by the U.S. Army Forces Command (FORSCOM). As the mobilization progresses, the AVCRADs focus their efforts on the depot repair of the mobilization surge of aviation materiel.

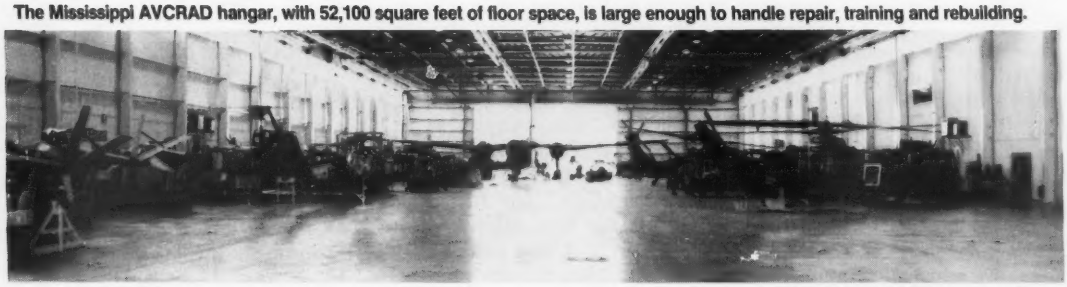
"We train up for all of that," said Lieutenant Colonel Paluel J. Flagg II, commander of the Connecticut AVCRAD. "Our mission is to clean up any aircraft maintenance on the deploying units aircraft left in our shops before the units deploy and then to provide maintenance support of aircraft passing through the mobilization stations. After that, we go to work, rounding out the depot system's repairing components workloaded by DESCOM." There is a lot of planning for that. The AVCRADs need to have a specifically defined workload. They then need to plan for what tools, equipment, parts and skills will be required where and when to accomplish their mission. "We are well into our planning process," said LTC Flagg.

"Classification is surely the AVCRADs' middle name," said COL P. Riddle, commander of the California AVCRAD. The classification mission is the identification, inspection, classification and disposition of aviation materiel being returned to the wholesale supply system or in storage. It turns out that a substantial amount of aircraft parts and components are mismarked when they are returned to the supply system. Sometimes a component is marked serviceable when it is not. Sometimes a component is marked unserviceable when, in fact, it is serviceable. Sometimes old components are returned as new. Occasionally, new components are returned as old. In all too many cases, the name of the tag is not what the item really is.

"We are sending 'classification teams' to storage facilities such as Pueblo Army Depot Activity at least twice a year as part of our mobilization training program," said COL Riddle. "We are continually amazed at how much error there is in the recovery system," he continued. The fact is that no one person or organization is directly at fault or can directly effect a solution.

"If everyone did their job in strict accordance with prescribed standards, then we would have much less to do," said COL Riddle. In the meantime, personnel from all AVCRADs continue to develop procedures (in coordination with DESCOM) and skills for classification of aviation

The Mississippi AVCRAD hangar, with 52,100 square feet of floor space, is large enough to handle repair, training and rebuilding.



materiel in storage. The condition is expected to get worse in case of a mobilization.

Personnel from the Missouri AVCRAD deploy overseas to a "warm base" facility in Brussels, Belgium. "Our primary mission, once we get to Europe, is to sit astride the pipeline," COL Gruetzemacher said. "As things are coming back from the battle, we evaluate them, classify them and determine whether we can repair them quickly and get them back into the combat environment; whether we can salvage them by mixing and matching until we get one good item; and whether to send things back to the states, if necessary."

To facilitate smooth transition when mobilized, the European AVCRAD is being stocked and prepared. "You can't set up a depot maintenance facility overnight. You can't even set it up in 30 to 60 days, so it has to be ready to operate on the first day of the war," COL Gruetzemacher said.

A skeleton staff of contract personnel keeps the European AVCRAD in operational condition—equipment calibrated, stocks complete, physical property upkeep, etc. "On mobilization-day (M-day), all we do is grab our cold weather gear and the rest of our organizational clothing and equipment, and get on an airplane. When we get to the European AVCRAD, we are ready to go to work right then," COL Gruetzemacher said.

As with any Guard unit, it is important to train where you might eventually fight and that is just what AVCRAD personnel do 12 times a year. Cadres of 20 Guard members each, full- and part-time, do 3-week stints in Europe training for mobilization. While in Europe, they spend their time working with the war reserves and unserviceable stocks to learn the details of procedures used in conducting maintenance operations in Europe. During these overseas deployment training cycles, AVCRAD personnel also do authorized depot repairs and provide the U.S. Army in Europe with a backup AVIM support capability. For more details on the European AVCRAD, see the article entitled "European AVCRAD," in this issue, page 21.

As the main body of the Missouri AVCRAD packs for Europe on M-day, a detachment of the Missouri AVCRAD gears up to keep that installation functioning.

In preparation for M-day, each AVCRAD hosts a mobilization planners' conference for FORSCOM installations in their respective support areas. These conferences gather the mobilization planners together from all organizations with proponent responsibilities for determining what the FORSCOM installations' mobilization requirements are. "That's my training program," LTC Flagg said. "I train up for their requirements and, upon mobilization, we will be flexible enough to make adjustments if necessary."

On M-day, it is important that the AVCRADs slide right in step with DESCOM, of which they become part, from paperwork to procedures. Toward this goal, the Gulfport AVCRAD has become the prototype for a new computer system that all four AVCRADs will eventually acquire.

Once they are online, all four AVCRADs will be tied in together with MACE and the mainframe at DESCOM headquarters. If mobilized, the computer will make the transition to DESCOM easy. That is what drove the impetus for acquiring the computer system. The AVCRADs have yet to realize the computer's full potential, but already show a considerable savings in manhours. Eventually, all parts, equipment and items to be repaired will be bar-coded. This system will be used to track jobs from the time they enter the AVCRAD system until they are returned to home base, which will increase efficiency and productivity. It is going to provide the AVCRAD managers with a quick spreadsheet that they can manage from, as opposed to the stubby pencil method that is used now.

Another way the AVCRADs keep on top of production is by conducting regional logistical training workshops for other premobilization customers in the

An AH-1 surrogate is used to train for the AH-64.

states. Each AVCRAD conducts a workshop every other year, but the commanders and key AVCRAD personnel attend each workshop, one every 6 months. Key personnel from the NGB; Headquarters, DA; major Army commands; major subordinate commands; the AVCRADs; and the AASFs gather to exchange information and continuously improve the ARNG Aviation Program. The first day of the workshop, NGB personnel and the AVCRAD commanders gather for the Bureau/AVCRAD workshop. They discuss the problems affecting the Army National Guard Aviation nationwide.

Support area personnel, such as AASF commanders, maintenance officers, technical inspectors, supply technicians and production controllers spend 2 days attending work intensive workshops. Information is shared and action plans are developed to resolve problems that are of area or nationwide concern.

Training and safety get top priority at the AVCRADs. Safety is very important when working around machinery and equipment. "That is something we constantly work on," COL Johnson said. "I believe in safety from the standpoint that I'm concerned."

Another factor involved in safety is drug and alcohol abuse. COL Riddle said he has a very aggressive testing program. He counsels his personnel on the effects of drug and alcohol abuse and does random testing. In the years since they began testing, very few people have turned up positive.

Aviation maintenance and repair is a very specialized area, and training of the AVCRAD mechanics and AASF personnel is important. Nothing will establish morale of a unit and keep it any higher than good solid training. To this end, they spend a great deal of time on planning the training of troops during AT and for mobilization. In aviation maintenance, the best, if not the only meaningful training, is actually working on materiel and having it certified as having been worked on correctly. Besides the workshops conducted every other year, the AVCRAD personnel continually upgrade their skills by going to the Army depots and courses in their specialized areas.

All this is well and good, but it is the people who make or break an organization, and these AVCRADs seem to have a market on the best. AVCRAD commanders agree that their personnel really know their jobs and the personnel are ready to go do whatever is required of them.

Where do they come from, these skilled aviation maintenance personnel? It is a cross-section. Like all Guard units, the AVCRADs get homegrown Guard men and women who are trained inhouse, and there are those people who have been in the Active Components or the Guard for a long time.

The AVCRADs have an important role in the peacetime and wartime logistical support of ARNG and Army Aviation. The men and women of the ADMRU program know that's what the National Guard is all about.

An OH-6 aircraft in the airframe master alignment fixture, a special tool unique to the National Guard.

OH-58 observation helicopters awaiting modification and phase maintenance at European AVCRAD, Brussels, Belgium.

photographs by Sissy Long

European AVCRAD

An AMC-E Asset

Lieutenant Colonel Eric Braman
ARNG Aviation Division
Commander, European AVCRAD

THE EUROPEAN Aviation Classification Repair Activity Depot (AVCRAD), an Army Materiel Command, Europe (AMC-E) asset, operated by U. S. Army Aviation Systems Command (AVSCOM), bridges the gap between U. S. Army, Europe's (USAREUR's) theater aviation maintenance program and the continental United States (CONUS) based depots.

Its Origin

The requirement for an outside CONUS (OCONUS) depot can be traced back to a 1976 Department of the Army, Deputy Chief of Staff for Logistics study. The study determined, in part, a significant shortfall in depot level aviation maintenance capability would exist upon mobilization. As a result of that study, the four Army National Guard (ARNG) transportation aircraft repair shops located in Groton, CT; Fresno, CA; Gulfport, MS; and Springfield, MO, were reorganized into AVCRADs. These newly

formed AVCRADs and the mobilization AVCRAD control element became the nucleus of the Aviation Depot Maintenance Roundout Unit (ADMRU) program.

In peacetime, the mission of AVCRAD is to provide backup aviation intermediate maintenance (AVIM) and limited depot level aviation maintenance support to an ARNG fleet in excess of 2,700 aircraft. Upon mobilization, the ADMRU program has two principal missions: diminish the shortfall in CONUS depot capability for the repair of critical aviation material; provide support to deploying forces at selected U. S. Army Forces Command installations.

The study also recognized that, upon mobilization, USAREUR would generate a significant depot level workload, an estimated 30 percent of which could be repaired within theater. This would reduce maintenance turnaround times and enhance aircraft availability. For more information on the ADMRU program, see article "Aviation Classification Repair Activity Depot: In Support of the Fleet," this issue, page 16.

As a result, a requirement was established for a depot facility to sit astride the retrograde pipeline in USAREUR capable of supporting intheater classification and depot repair of aviation and aviation related material. The 1107th AVCRAD, of the Missouri ARNG, was designed to deploy to USAREUR upon mobilization to perform the OCONUS depot mission. This mission encompasses not only operation of the OCONUS depot but also provides other requirements: contract teams to several aerial/sea ports of debarkation; aviation battle damage assessment and repair teams; and backup aviation intermediate maintenance as required throughout the theater.

Overseas Deployment Training (ODT)

The ODT program is the vehicle through which Reserve Component personnel are deployed to Europe. They develop battle books, perform mission training and participate in exercises with units in their CAPSTONE trace. From October 1984 through September 1987, the 1107th annually deployed 180 soldiers to USAREUR. Typically, the unit's ODT program consisted of six 30-man cells, deploying for 21 days about every other month to selected sites in Germany. With the establishment of a depot in Brussels, Belgium, the deployment schedule has been expanded to 12 cells annually, thus providing USAREUR a limited depot capability on a nearly year-round basis.

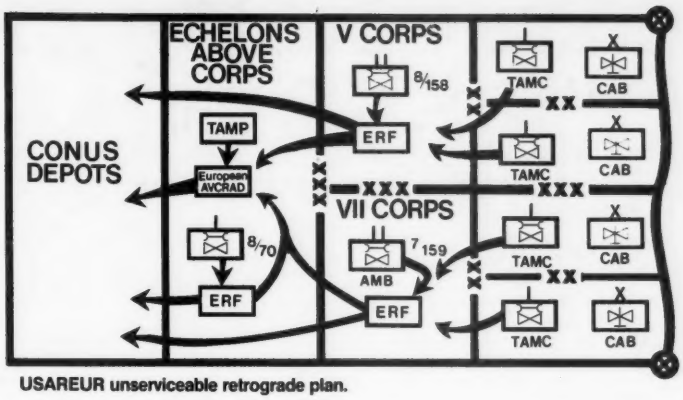
Warm Basing

Ensuring that the European AVCRAD is fully capable of performing its mission on the first day of mobilization presents a unique challenge. Normally, a unit would not deploy with all its equipment until mobilization. However, several factors necessitated a different approach: sheer quantity, weight and size of the 1107th AVCRAD table(s) of distribution and allowances/common tables of allowances (TDA/CTA) equipment and special tools; electrical power needs unique to Europe; and installation and calibration requirements.

The solution was to establish an intheater premobilization warm base. A warm base is a fully equipped installation or facility manned by a small cadre through which a trickle peacetime workload flows to validate mobilization readiness. In September 1986, AVSCOM leased appropriate facilities in Brussels, and equipment began arriving that December. Simultaneously, a six-man team from Corpus Christi Army Depot (CCAD), TX, began installing the equipment. Early in 1987, operational responsibility for the warm base was transferred from CCAD to AVSCOM. AVSCOM contracted DynCorp, Reston, VA (formerly Dynalectron) to provide a cadre work force.

The DynCorp contract field team (CFT) requisitions, installs, maintains and calibrates several thousand items of TDA equipment, special tools, test measuring and diagnostic equipment. The CFT also maintains a bench/shop stock of more than 8,000 lines of class IX repair parts; sets up work for deploying Guardsmen; and completes open work orders left by Guardsmen

Sergeant John Luther, European AVCRAD employee, in front of the well-equipped tool board.



USAREUR unserviceable retrograde plan.

when they return to CONUS. They are also responsible for ordering and maintaining all technical data and publications.

Unserviceable Repairable Evacuation Flow

The key to an effective and timely intheater repair program is the rapid evacuation of unserviceable repairables by an established retrograde plan. The chart above shows the current USAREUR plan. To facilitate this retrograde process, the European AVCRAD has positioned aviation technical inspectors at each of the European redistribution facilities (ERF). The principle objective of technical inspectors is to coordinate the expedited movement of unserviceable repairables from the ERF to the proper theater repair facility. This is done because of the following:

- Performance of a receipt inspection of both serviceable and unserviceable repairables.
- AVSCOM managed (B-17) items turned in to the ERF, validating the material identification, recoverability code and condition code.
- Verification of the actual condition of all B-17 managed items that are reported in condition code (CC) "H." This can result in significant savings by ensuring only items that cannot be repaired are turned in for disposal.
- Verification of the demilitarization of CC H items so that they cannot be returned to the supply system.
- Ensuring aviation material is appropriately packed for transportation by United Parcel Services, rail, truck or aircraft.

Logistics Air Support Program

In fiscal year 1990, the European AVCRAD is scheduled to receive a C-23 Sherpa. This aircraft will be used to expedite the movement of aviation material and maintenance teams between the corps/theater AVIMs, ERFs, reserve storage activities, special repair activities and the European AVCRAD.

Mission Ready

During the past 2 years, the European AVCRAD has progressed from a concept to a reality. The appropriate TDA/CTA equipment and special tools have been identified, requisitioned, received, installed and calibrated. European AVCRAD personnel (both ARNG soldiers in ODT and DynCorp CFT) have classified, repaired and returned to the supply system in excess of 900 components, resulting in a cost avoidance of nearly $1 million.

The European AVCRAD, as an agent for the AVSCOM, 200th Theater Army Materiel Management Center and National Guard Bureau, has been tasked with the peacetime missions of—

- Storage of aircraft entering and leaving the theater aviation maintenance program facility in Brussels.
- Storage, maintenance or preparation for air transport of the following:

19 OH-58A Kiowas to CCAD.
47 UH-1H Hueys to ARNG/U.S. Army Reserve units in CONUS.
46 UH-1H to be retained at AVCRAD for use by ARNG units conducting ODT.
8 UH-1H for foreign military sales case.
38 AH-1F Cobras to CONUS.
5 OH-58C to Ft. Rucker, AL, for the U. S. World Helicopter Championship Team.

The conceptual objective of an OCONUS AVCRAD was to establish a depot level warm base, recognizing this would require up front resourcing for the facility; TDA/CTA equipment; special tools; and bench/shop stock. No appreciable return on the investment was expected until mobilization. The success of the European AVCRAD in executing these missions clearly demonstrates the cost benefits that can be accrued through warm basing.

AVSCOM and the theater have realized a significant peacetime capability as an adjunct to preparation for the mobilization mission. The European AVCRAD, using ARNG soldiers and a DynCorp CFT, performs as a highly responsive and cost effective special repair activity to support the total Army Aviation maintenance program.

AVIATION MEDICINE REPORT
Office of the Aviation Medicine Consultant

How to Clean Unbelievably Dirty Water

Lieutenant Colonel Douglas R. Coombs, M.D.
Utah Army National Guard

DIRTY WATER—not exactly what most people choose to drink, but it is all that is available when you backpack, canoe or climb. Unless you pack your own, dirty water is all you have when your helicopter is grounded awaiting rescue.

With a little planning and knowledge, you can make dirty water as safe as tap water. Actually, even tap water, with a variety of bacteria and protozoa that abound, is anything but sterile. The Environmental Protection Agency uses the concept of minimum contaminant level (MCL) to determine the safety level of drinking water. That is, coliform counts up to a certain level are considered safe; above that, the risk of diarrhea increases. Each organism, such as Giardia, has its own MCL.

We can identify what kind of microorganisms we find in natural land water. The list is long and many are not important to human health. First is dirt, fiber, silt, and animal and fish excrement. Chemicals, organic pollutants, and even potentially irradiated particles may be present. Many living creatures exist, from the plankton that service the protein needs of fish and insects, to the fish and insects themselves. Also included are their parasites, larvae, eggs, bacteria and viruses.

The causes of enteric diarrheal diseases most frequently identified are found within the murky waters of the lowlands and the crisp, clean waters of the glacial streams in high mountain areas. *Campylobacter* is the most commonly found coliform bacteria. *Salmonella* and *Shigella* cause bloody diarrhea of an acute nature with fever, aches and pains.

Among the many protozoa and parasites, *Giardia lamblia* is the most important as a cause of subacute diarrheal illness associated with bloating, weight loss from malabsorption and abdominal pain. *Entamoeba histolytica*, also in this category, causes the dreaded amebic dysentery. This dysentery can mimic the above mentioned acute bacterial illnesses as well as Giardiasis.

To be complete, we must mention *Hepatitis A* and *Poliovirus* as enteric viruses. These waterborne illnesses pose a greater risk in other countries than in the United States.

Aviators should consider all field water

contaminated and potentially dangerous to drink. Learning how to expect the unexpected includes learning how to clean water in a survival situation. These cleaning processes include sedimentation; coagulation or flocculation; filtration; chemical killing; and taste, color and smell enhancement.

Sedimentation is when water is allowed to stand allowing the heavier particles to settle on the bottom.

Coagulation or flocculation allows suspended materials to precipitate. A pinch of alum (aluminum salt) added to a liter of dirty water causes a precipitate to form that can be filtered out of the water.

A coffee filter can be used to filter water. Because of the pore size, this filter is not expected to filter out such small particles as protozoa, bacteria and viruses, but much of the silt and dirt can be removed. More expensive water filters, such as the Katadyn filter, pump water through a ceramic filter with pore size of about 0.2 micrometers (about the size of most enteric bacteria). Such fine filtration is effective for probably all particles except viruses. Filters do not desalinate or remove other chemicals or organic pollutants. Instead, filtration clears, but does not necessarily sterilize, water.

The best disinfection is done by heat or chemical killing. Heat kills. By the time water boils, all enteric bacteria, viruses and parasites die. Water does not have to boil for several minutes to kill these microorganisms (fuel is not always easy to get in the wilderness).

The most effective chemical for field disinfection is iodine. A widely available form is tetraglycine hydroperiodide sold as potable agua or globaline. These are the type found in the Army survival vest. One tablet in a liter of water gives a concentration of 8 milligrams per liter (mg/L) and a residual after contact time of 4 mg/L. *Giardia,* which is difficult to kill with iodine, requires an iodine concentration of 7 mg/L for 30 minutes in very cold water. Since higher concentrations of iodine produce undesirable taste and color, smaller concentrations are preferable, but the contact time must be increased. For example, one tablet allowed to dissolve in 1 liter of water for 30 minutes is as effective as two tablets with a 10-minute contact time. The warmer and cleaner the water, the less the iodine concentration necessary to kill. After an overnight contact time, only small amounts of iodine are needed to kill microorganisms. Anyone with a thyroid disease or women who are pregnant should not use iodine.

The final process of purification takes out chemicals, pollutants, radioactive particles and other impurities, as well as undesirable taste, smell and color. Good old granular charcoal, such as from an aquarium supply, removes these impurities by absorption. A few granules added to the final product after disinfection by heat or chemicals make the water taste oh, so good! If all else fails, remember to use a packet of presweetened lemonade mix, which masks the flavor of almost any water.

These items fit easily into a small pouch or knapsack for wilderness trips and flights:

- Two widemouthed collapsible water containers
- Small bottle of alum
- Small bottle of charcoal granules
- Potable aqua (continually keep fresh—buy a new bottle frequently)
- Coffee or lab grade paper filters
- Presweetened lemonade mix
- Matches, fuel, boiling pot (unless you plan to chemically kill)
- Microfilter devices

The Aviation Medicine Report is a monthly report from the Aviation Medicine Consultant of TSG. Please forward subject matter of current aeromedical importance for editorial consideration to U.S. Army Aeromedical Center, ATTN: HSXY-ADJ, Fort Rucker, AL 36362-5333.

AVIATION LOGISTICS
U.S. Army Aviation Logistics School

BNCOC

A Better Basic Noncommissioned Officer Course

Mr. E. Theodore Johnson Jr.
Directorate of Training and Doctrine
U.S. Army Aviation Logistics School
Fort Eustis, VA

THE BASIC Noncommissioned Officer Course (BNCOC) at the U.S. Army Aviation Logistics School (USAALS), Ft. Eustis, VA, is about to experience a major revision: combining two important classes into one. The new BNCOC class will train soldiers for the aircraft maintenance supervisor and technical inspector tasks. Formerly, soldiers have had to learn these subjects in separate courses.

USAALS is designing and developing the new class to begin in fiscal year (FY) 1990. This design and development is part of "BNCOC '90," a new and improved avenue of training. BNCOC applies to all career management field 67 military occupational specialties.

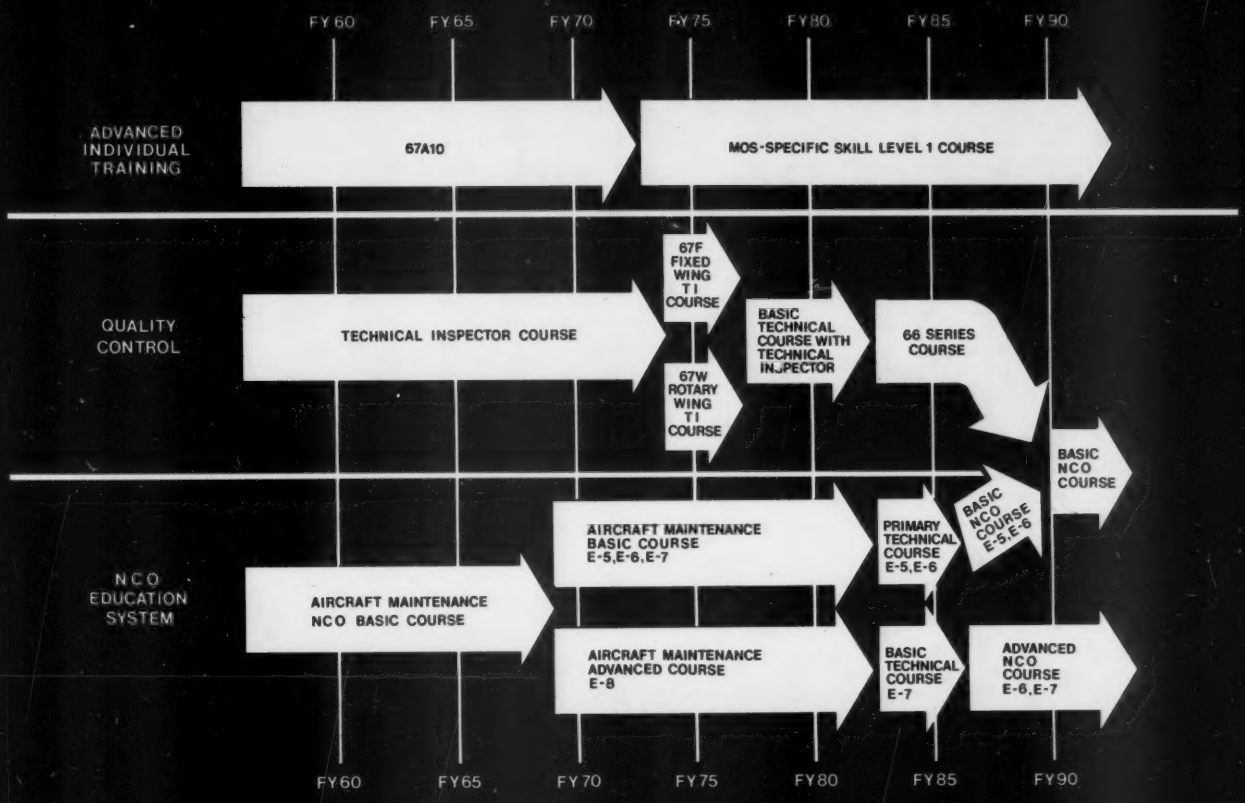
A recent aviation logistics study directed integration for training E5 and E6 first-line supervisors and technical inspector personnel. The study group concluded that this integration will enhance the career development of the skill level 3 soldier. This individual is at any one time a technical inspector, maintenance supervisor and troubleshooter. The new BNCOC graduate will be eligible to fill one of the following duty positions at the discretion of the unit commander: quality control supervisor, maintenance supervisor, crewchief, section chief or technical inspector.

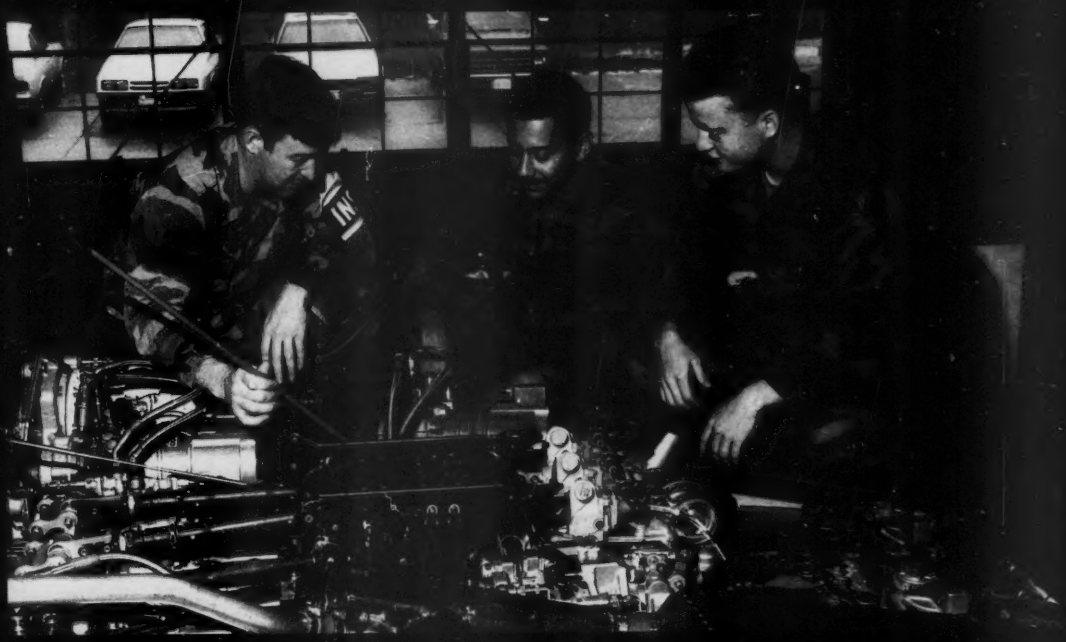
A comprehensive understanding of aircraft systems will help his performance, regardless of what position he holds. This aircraft systems approach of training in all the systems as a whole will be a major feature of the new course. For example, a class held on the powerplant system will teach supervision, inspection and troubleshooting in one instructional unit.

This training as a whole differs from the individual component replacement and repair instruction of the advanced individual training at skill level 1. The emphasis of systems understanding and supervisory/inspection techniques will make each BNCOC graduate a more effective member of his command team.

Combining his skills as an experienced mechanic gained in previous field units with

photographs by Bob Snowden

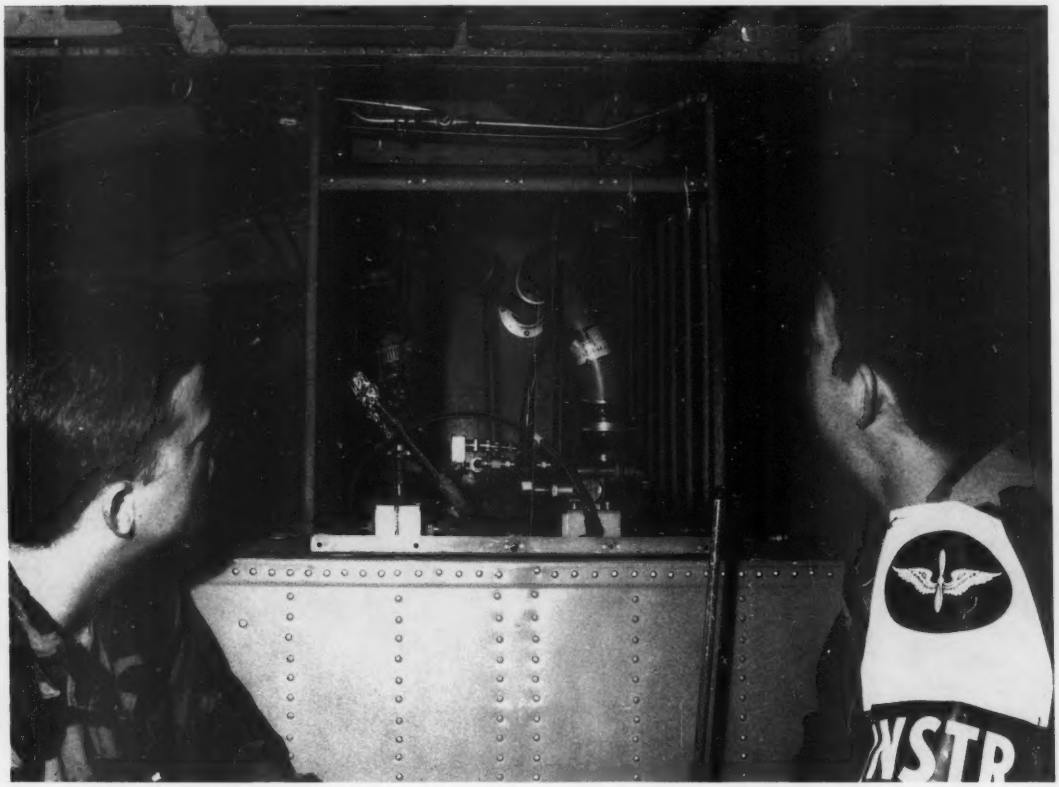




Sergeant First Class Tommie Gaither (left), instructor for the 67T30 Basic Noncommissioned Officer Course, teaches hydraulic system operations on the UH-60 Black Hawk to Sergeant Miguel Ulloa (center) and Sergeant Lloyd Cline, students in the class.

photographs by Bob Snowden

Sergeant James Adriance (above and right), performs tailrotor maintenance on the UH-60 Black Hawk as part of his training in the 66T Technical Inspector Course.



Sergeant First Class Tommie Gaither (right), instructor for the 67T30 Basic Noncommissioned Officer Course, and student Sergeant Lloyd Cline, inspect the auxiliary power unit accumulator fuel system on the UH-60 Black Hawk.

resident instruction at Ft. Eustis, the commander can designate the BNCOC graduate of tomorrow as either a technical inspector or a maintenance supervisor. The graduate also will be able to use his skills as a troubleshooter in the skill level 3 and 4 career phases.

The proposal of combining the 66- and 67-series has been presented to the chief, Army Aviation Branch; commander of the Logistics Center; and Department of the Army. Pending final approval and implementation guidance in FY 1990, the Aviation Logistics School will train all BNCOC soldiers in these duties. Another bonus for the old "Route 66" soldiers: the proposal grants BNCOC credit to those who successfully completed the "old" technical inspector (TI) school from 1983 until the program ended. At the same time, unit commanders will award the special qualifications identifier of "T" to the new BNCOC graduates who have served as a TI for 1 year.

The ultimate objective: provide the present and future soldier with the best training possible. This means training that meets personal needs and goals as well as training that gives the Army maximum readiness for modern battlefield challenges.

This poem is written and dedicated to the Apache 67T10 class, number 10-89, by Staff Sergeant William M. Stephenson. SSG Stephenson has been assigned to the U.S. Army Aviation Logistics School as an Apache maintenance instructor since February 1988.

Silver wings upon our chest,
makes us one of the Air Corps best.

Working hard to the break of dawn,
Stressful mode, we're never done.

Safety first is our goal,
To launch our crew, in the tank killing mode.

They hover low among the trees,
returning home maintenance free.

They smile at us for a mission done,
for you have completed a task well done.

Standing tall among the best,
until they lay this soul to rest.

Let it be known this very day,

THEY'LL NEVER TAKE THESE WINGS AWAY.

Sergeant James Adriance (left) and Sergeant John Foster, 66T Technical Inspector Course students, inspect the tailrotor pitch control rod on the UH-60 Black Hawk.

Sergeant Yolanda Muraco, 66T Technical Inspector Course student, inspects swashplate on the UH-60 Black Hawk.

MISSION SURVIVAL

The Western Region Aviation Survival School, Lake Oswego, OR, trains Army aviators how to survive. It is a subsidiary of Universal Training Systems, a chartered, nonprofit training institution, also of Lake Oswego.

It was the Universal Training Systems that came up with the survival school "privatization concept." The survival school exists today because of this concept. Privatization saves money by turning government programs and functions over to private companies and institutions.

The purpose of the survival training school is to provide combat readiness survival training for aircrew and nonaircrew personnel who are required to participate in aerial flights. The mission of the school is to increase every student's chance of survival and to enhance combat effectiveness. Two days in the classroom and about 2 1/2 days in the field apply to "hands-on survival" learned in class.

The school stresses that survival is not a herculean task. What's the formula for staying alive until rescued? Individuals, plus equipment and know how, equal survival. Nothing in the formula requires brute strength.

All the staff members are retired with military survival instruction experience. They have extensive aviation backgrounds in fixed- and rotary-wing aircraft.

Some of the school's most outstanding students have been women aircrewmembers. Women accept their predicament rapidly and then work to improve it. The other thought among the women: "We have a desire and commitment."

Students can now take three aircrew survival subjects: basic land, hot climate and cold climate. Overwater survival will be available next year. Without exception, aircrewmembers who have completed any of the courses have surprised even themselves with their own learned skills. It seems the survival factor has now become part of all their mission planning.

The school is affiliated with a community college in Oregon and will soon be affiliated with a college in Alaska. College affiliation means that students who complete a survival course may receive college credit for aircrew survival training.

The school teaches hands-on use of survival equipment. Hands-on use means if an individual goes down, injured or semiconscious, the hands will go automatically to the survival pocket where the needed item is located.

Commanders are responsibile for survival training. If aircrews do not have their authorized aviation life support equipment (ALSE), or are not trained to use their ALSE, they are not combat ready.

Aviators who have experienced a survival situation know that the more one learns about the ground environment, the better the chances for survival. One way the Army helps its aviators

photo by WRASS staff

Colonel William Yaeger, Montana National Guard, the first student to register for the Western Region Survival School, discusses the mechanics of an animal trap trigger with survival instructor Sergeant First Class "Ret" Wayne Engle.

ORARNG photograph by SSG Dale Adams

Warrant Officer Beverly Haug, the first woman aviator to attend the first survival class in Oregon, is assisted by Captain Glen Ballard and Major Frank West, to strain purified drinking water through a signal panel marker. CPT Ballard, MAJ West and WO Haug are UH-1 helicopter pilots for the California Army National Guard.

learn survival is with the best ALSE available. If the aircrewmember does not know to use the equipment, another loss statistic can result.

Universal Training Systems is proving that survival training is one of the best and least expensive aircrew insurances money can buy.

For further information, contact Mr. Frank Heyl, Western Region Survival School, Commercial 503-636-6254.

SAFE USE OF OXYGEN

As the performance of fixed- and rotary-wing aircraft improves, and the mission of Army Aviation continues to expand, the use of oxygen during flight becomes more and more commonplace.

Aviator's breathing oxygen (ABO) (Federal specification MIL-0-27210) is the only oxygen approved for use by aircrews, passengers and parachutists in military aircraft. The reason is that ABO has a minimum purity of 99.5 percent by volume and does not contain more than 0.02 milligrams of water vapor per liter of gas at 760 millimeters mercury at 20 degrees Celsius (68 degrees Fahrenheit). ABO is odorless and free from all poisonous substances and impurities, including drying agents.

Oxygen that aviators breath is not to be confused with welding oxygen or medical (hospital) oxygen. While these latter types may be pure enough for breathing, they usually contain enough water to freeze and plug the lines and valves of the oxygen system. This can occur in other than outside cold temperatures. As oxygen flows through the lines and valves, the drop in pressure causes a drop in temperatures. Freezing can occur even in warm weather or when the aviator turns on the cockpit or cabin heater.

Oxygen under pressure is safe when handled properly but dangerous when handled carelessly. Handling oxygen is not dangerous if the aviator follows these simple rules.

Keep oil and grease away. Do not handle oxygen with greasy hands or clothing. Do not let fittings, hoses or oxygen equipment get smeared with oil, grease or hydraulic fluid. If oxygen comes in contact with any of these petroleum products, a fire or explosion can occur.

Keep oxygen away from fires. Do not smoke or expose oxygen to open flames. A lighted cigarette in a jet of oxygen will flare up and burst into flames. A small fire in the presence of oxygen can quickly become a big one. Carelessness destroys aircraft and hurts people.

Never mix oxygen with other gases. Never use oxygen in systems intended for other gases. Never put anything but oxygen into an oxygen system.

Handle oxygen cylinders and valves with care. Ensure oxygen storage cylinders are secured at all times to prevent movement. Never drop, tip or roll a cylinder into anything. A broken valve allows the cylinder to become a missile. Remember to paint high pressure oxygen cylinders green and paint low pressure oxygen cylinders yellow. Never fill a low pressure bottle from a high pressure source without a pressure reducing valve.

For further information contact Mr. James C. Dittmer or Mr. Boone Hopkins, AUTOVON 693-3573/3574.

If you have a question about personal equipment or rescue/survival gear, write PEARL'S AMC Product Management Office, ATTN: AMCPM-ALSE, 4300 Goodfellow Blvd., St. Louis, MO 63120-1798 or call AUTOVON 693-3573 or Commercial 314-263-3573.

Mr. Ron Eaton
ARNG Aviation Division
National Guard Bureau

Training Sites

A Deliberate Role in Peacetime, An Opportunity for Mobilization

AS WE MOVE toward the 21st century, competition for resources will become more intense. Federal departments, offices and agencies will compete for resources needed to meet growing demands for a myriad of services. Demographics will change significantly. More urban environments will develop; a smaller market for potential military service will exist; and a greater public interest will be aroused in protecting open space and the environment. Each will impact the military to some degree.

For the Army National Guard (ARNG) Aviation Program, resource limitations will impact available training areas, airspace, manpower, equipment and time. Those resources must be considered separately and as a whole. Consideration of resources in this manner should enable the determination of potential impacts on the ARNG Aviation Program's ability to develop and sustain an aviation force for mobilization. Such an assessment has been ongoing for some time within the ARNG Aviation Program.

In the early 1970s, an ARNG Aviation Program management structure was designed to meet training and logistical requirements generated by increased aviation units in the ARNG. That structure addressed aviation training and maintenance operations in the United States. It brought about ARNG Aviation support facilities and four supporting maintenance shops with limited depot maintenance capability. In the late 1970s, the ARNG began looking over the horizon to anticipate resource issues that could develop during the 1980s. It became apparent that the training side of the ARNG Aviation Program structure would require change.

One such change was discussed in 1978. Major General James C. Smith, commander, U.S. Army Aviation Center, and Major General LaVern E. Weber, chief, National Guard Bureau, reviewed the U.S. Army Training and Doctrine Command (TRADOC) aviator training base.

Western ARNG Aviation Training Site and Army Aviation Support Facility near Marana, AZ.

Eastern ARNG Aviation Training Site and Army Aviation Support Facility at Fort Indiantown Gap, PA.

They determined that constraints on the "school house" would limit the ability of the U.S. Army Aviation Center, Ft. Rucker, AL, to support projected ARNG formal aviator training requirements as early as 1981. They agreed that the ARNG would have to enhance its internal aviator training capability. Enhancement was needed to develop and sustain increased aviation force structure and the associated training readiness levels. The discussion and support of the Deputy Chief of Staff for Operations and Plans, Headquarters, Department of the Army, led to the development of the Eastern and Western ARNG Aviation Training Sites (EAATSs AND WAATSs).

The AATSs are designed to support ARNG aviator and instructor pilot qualifications for which TRADOC training capabilities are either limited or not available. Qualification training on aircraft that may be "unique" to aviation units assigned to the ARNG was central to initial AATS mission planning. These sites focus training support on resource intensive requirements such as aerial gunnery and night vision device qualifications. Such support is essential for aviation units that may not have ranges or large training areas readily available.

Although missions differ between the two AATSs, they are similar in organizational design. Each is resourced with full-time support personnel. Personnel authorizations are 120 and 115 for the EAATS and WAATS, respectively. Facilities are similar; they include proper administrative space, dining hall, 60-man aircrew dormitory, flight simulators and a dispensary for medical care and flight physicals.

The EAATS located at Ft. Indiantown Gap, PA, emphasizes individual aviator qualification training in utility and cargo rotary-wing aircraft as well as selected fixed-wing aircraft. Flight training is conducted over a rural setting. Gently rolling terrain lies to the east and mountainous terrain, immediately to the west. Since beginning operations in 1981, the EAATS has trained 2,618 aviators who have flown nearly 33,000 flying hours. In addition, 964 ARNG safety personnel have attended the ARNG-developed Aviation Mishap Prevention Course (AMPOC) conducted at the EAATS. Of considerable importance is the operation of a regional UH-1H Huey synthetic flight training

system that supports Active Component, U.S. Army Reserve and ARNG aviators on a regional basis. More than 65,000 hours of creditable aircrew training have been completed in this simulator since 1982.

The WAATS began "limited" operations in late fiscal year (FY) 1987; it focuses on attack and aeroscout training. This site is located 35 miles north of Tucson near Marana, AZ, in a desert environment. High mountains appear to the west in the Gila Bend gunnery range complex. The WAATS continued internal organizational development. It began external training for ARNG aviators from various attack helicopter units in FY 1988. More than 3,000 flying hours were executed in support of external training in FY 1988. The WAATS also conducted an AMPOC for ARNG safety personnel from the western states. In addition, the WAATS provided flight training support essential to drug enforcement efforts of U.S. Customs and Border Patrol aviation personnel.

Both training sites now operate the new generation AH-1 Cobra flight weapons simulator (FWS). The AH-1 FWS located at the WAATS provides support for AH-1 qualification courses as well as regional support. The EAATS device provides regional support only. The AH-1 FWS is designed to provide training in normal aircraft operating proce dures, emergency procedures and gunnery techniques. Delivery of the TOW missile is included. The AH-1 FWS incorporates a computer-driven digital image generator visual system, as opposed to the three-dimensional terrain model; it includes interactive threat. Between both training sites, more than 2,400 hours of creditable aircrew training were logged on the AH-1 FWS during the fourth quarter of FY 1988. This AH-1 FWS offers a viable alternative to constrained ammunition and range time, thereby promising to be of great value in meeting aerial gunnery requirements.

A look into the future indicates a need for the AATS to prepare for an increased role in training to include displaced equipment, AH-64 Apache, aeroscout observer and selected enlisted skills. Mountain flight training needs of the ARNG Aviation Program will be addressed through a flight training activity in Eagle, CO, as an extension of the WAATS. An AH-64 combat mission simulator is planned for the WAATS in the early 1990s.

The AATS program serves an important role in premobilization training of ARNG aviators; however, its capability to support the TRADOC training base upon mobilization must be considered. Personnel experience, facilities and training areas can offer a measured response for aviation mobilization training requirements. The current AATS table of distribution and allowances mission statement calls for the training sites to "augment the TRADOC aviation training base upon mobilization." We must work diligently to provide Army Aviation with an efficient organization that will enhance readiness and meet aviation training requirements upon mobilization.

As resources become more constrained through the 1990s, the role of these training sites will take on greater importance. As the AATS program matures, greater emphasis on resource intensive training will occur. This should enhance the use of the traditional Guard members and home station training time for "unit" level tasks. In the final analysis, ARNG aviator training and unit readiness will be improved by maximizing the use of the AATS. Thus, Army Aviation will be provided with a significant mobilization asset.

Sampling of the more than 40 qualification courses (QC) offered by the ARNG aviation training sites.

AH-1S Cobra Modified Instructor QC	Western Site
AH-1S Cobra Aviator QC	Western Site
AH-1S Cobra Night Vision Goggles (NVG) Instructor Pilot (IP) and Aviator QC	Western Site
OH-58 Kiowa Aeroscout QC	Both Sites
OH-58 Kiowa NVG IP and Aviator QC	Western Site
U-21A Ute Aviator QC	Eastern Site
UH-1H Huey NVG Aviator QC	Eastern Site
OH-6A Cayuse NVG QC	Eastern Site
UH-1 Huey IP Refresher	Eastern Site
OH-6A Cayuse IP Refresher	Eastern Site

The Big Brigade

Illustration by Bob Rosenburgh

Staff Sergeant Bob Rosenburgh
Public Affairs Office
I Corps and Fort Lewis
Fort Lewis, WA

THE TOTAL ARMY concept is alive and well at Ft. Lewis, WA. Ft. Lewis is the home of I Corps, the giant west coast Army headquarters that includes units of the Active Component, Army Reserves and Army National Guard (ARNG) in 47 states. With a mobilization strength of nearly 195,000 troops, it's no wonder I Corp's official motto is "America's Corps."

The 66th Aviation Brigade of the Washington ARNG reflects the size and structure of its parent command. The 66th, activated at Ft. Lewis on 3 October 1986, is the largest aviation unit in the ARNG. It is a unique command—the only National Guard aviation brigade assigned to an Active Component corps.

Even the structure of the 66th is distinctive. It supports subordinate commands across 12 states, which like the I Corps, are comprised of units of all 3 components of the Total Army.

With 4,200 personnel and 456 aircraft, the soldiers of the big brigade are ready to meet the unit mission—to provide the corps commander with combat power and aviation maneuver elements to influence a battle during critical points. The brigade offers deep strike operations in the extended battlefield. Key to that effort is the capability to envelop, destroy or delay enemy forces of the second echelon, special and high value targets, and uncommitted enemy forces.

Finally, the 66th Aviation Brigade includes personnel and resources to extend and enhance aviation command and control. These personnel can manage battlefield airspace in a high threat environment and synchronize combat and combat support operations. Movement of troops and materiel, whether it is simple supply and ferry flights or full-blown air assaults, is on the 66th Aviation Brigade's menu for the corps commander to order up.

For such a young unit, the 66th has already trained in a wide array of field exercises. Headquarters and key subordinate commands have provided aviation support to the massive FIREX 88 artillery live-fire conducted at Dugway, UT. In Japan and Korea, exercises Yama Sakura XIV and XV and Team Spirit 88 and 89 have seen 66th Aviation Brigade involvement. Command post exercises Cascade Peak IV and V, annual training support for the 81st Infantry Brigade, aviation commanders' conferences, aviation safety conferences and a spate of activations keep the staff on the move.

It's a brigade in constant transition. The 66th pursues modernization initiatives and develops command relationships with far-flung units. They've chosen the peregrine falcon as a symbol for their new unit and have asked the Institute of Heraldry to develop distinctive shoulder sleeve and unit insignias to reflect their pride. Those aren't the only new items they'll have.

In the next few years, the attack helicopter groups and battalions are scheduled for AH-64 Apache transition, to replace the AH-1F Cobra fleets. Also planned is UH-60 Black Hawk, CH-47D Chinook and OH-58D Kiowa acquisition.

The 66th Aviation Brigade, like the I Corps, stands as a prime example of the effective transition to the Total Army concept. This is remarkable when considering the complex technologies and procedures intrinsic to modern Army Aviation.

Keep your eye on the "Falcons" of the 66th Aviation Brigade!

Lieutenant Colonel Kenneth O. Boley
ARNG Aviation Division
National Guard Bureau

illustration by Rebecca Nolan

The Mission Goes, Supported by Safety

SOME PEOPLE IN the Army view safety as an impediment to mission accomplishment. They quietly harbor the belief that accidents are the natural byproduct of realistic training. What they do not account for is the staggering cost of self-inflicted accidents during combat and training. For example, during World War II, one out of five soldiers killed died in an accident. In Korea more than half the soldiers hospitalized were injured in accidents. In Vietnam 5,700 soldiers were killed, 106,000 disabled and 5 million were injured because of accidents. Excluding Vietnam, over the past 20 years 16,000 soldiers have been killed in training accidents that cost $5.8 billion. That is enough money to organize 11 AH-64 Apache attack companies or equip 12 armor battalions with M-1 tanks. For a combat commander, no real-world distinction is made among losing a major asset to enemy fire, a logistical shortfall or a catastrophic accident.[1]

The Army National Guard (ARNG) Safety Program is predicated on the premise that all accidents are preventable. Accident prevention will be realized through bold, incisive leadership at all levels of organization from the first-line supervisor to the general officer. To be daring and bold is not to be confused with taking needless risks. Needless

risks frequently result in accidents that undermine a soldier's confidence and the Army's combat potential. The ARNG Safety Program supports the peacetime priority of training as well as the wartime goal of winning.

Currently, the Army Aviation Division, National Guard Bureau (NGB), which supports some 455,000 soldiers, is charged with fielding the largest centrally managed safety program in the Department of Defense. The ARNG slice of the force structure consists of the following: 36 percent of the combat divisions; 67 percent of the separate brigades; 50 percent of the infantry and the field artillery battalions; plus 39 percent of the attack helicopter assets. Safety professionals staff three functional teams (aviation, ground and occupational health). These teams are tasked with developing an all encompassing accident countermeasure program.

The foundation of the ARNG Safety Program is safety training and safety awareness. Time is a critical constraint on all Guard operations and a commodity that cannot be wasted. Therefore, training and awareness programs must be well planned, well targeted and time efficient. The strategy is to integrate safety into the ongoing training—and to also make safety a part of the soldier's way of doing business each day.

The NGB conducts formal training courses besides those offered by the Active Army; it also intensively manages the limited quotas for the courses taught by the U.S. Army Safety Center, Ft. Rucker, AL. These courses offer refresher training, information on ongoing issues and a forum for exchange of ideas. Besides formal classroom education, other educational techniques are used to inform personnel on safety topics. Most states conduct an annual safety "standdown" weekend, or conference, to promote safety awareness and education.

The ARNG Multi Media Branch develops safety posters, videotapes, slides and other innovative exportable training and education packages for use by ARNG units. The simplest means of reaching the greatest number of people has been through the use of printed material such as quarterly newsletters and electronic messages.

To test whether a program is getting its message across to its target audience, there must be a form of measurement or evaluation. One form of measurement is accident rates and accident reduction achievements. On the ground side, during fiscal year (FY) 1988, Class A through C accidents were reduced by 26 percent with fatalities cut by 41 percent. On the aviation side of the ledger, the program reached a milestone. For FY 1988 the rate was 1.00 per 100,000 hours flown (4 accidents per 399,668 hours flown). This is the lowest Class A rate ever achieved in the ARNG. The remarkable aspect of this decline is that missions flown in a higher risk environment such as nap-of-the-earth, night and night vision goggles have increased inversely in direct proportion to the reducing aircraft accident rate. Currently, ARNG Aviation flies about 22 percent of the Army's flying hour program.

The ARNG is being equipped and trained at all echelons to fight on a highly complex and lethal battlefield, while meeting new missions such as drug interdiction operations. The challenge of the ARNG Safety Program is to effectively and efficiently support the goal of well-trained soldiers prepared to meet the mission. The cost of training soldiers is too high to allow accidents to compromise the mission through unnecessary waste of crucial personnel and material resources.

In the final analysis, safety is not an impediment to realistic training. Quite the contrary, safety is a conduit to effective, efficient mission accomplishment.

[1] Statistics provided by the U.S. Army Safety Center.

U.S. Army Class A Aviation Flight Mishaps

	Number	Flying Hours	Rate	Army Fatalities	Total Cost (in millions)
FY 88 (through 31 July)	26	1,426,656	1.82	38	55.0
FY 89 (through 31 July)	28	1,354,687*	2.07	28	75.8

*estimated

ARNG Enlisted Aviation Training Update

Command Sergeant Major Jeff Culp
Eastern ARNG Aviation Training Site
Ft. Indiantown Gap, PA

Command Sergeant Major Jack List
Western ARNG Aviation Training Site
Marana, AZ

As THE ARMY National Guard (ARNG) implements new force structure and receives modern aviation systems, the challenge to train aviation enlisted personnel increases. This challenge is being met through several initiatives that will result in well-trained soldiers, increased readiness and better leaders.

Since the implementation of the enlisted aeroscout observer military occupational specialty (MOS) 93B, only a few ARNG soldiers have been able to attend the advanced individual training (AIT) course. This course is conducted at the U.S. Army Aviation Center, Ft Rucker, AL. In fiscal year 1989 nearly 435 93B soldiers are authorized to the ARNG. To provide training for these personnel, the Department of Enlisted Training (DOET), the Aviation Center, has developed an exportable training package. The DOET coordinated the package with the National Guard Bureau (NGB) Aviation Division, the Eastern ARNG Aviation Training Site (AATS) and the Western AATS. The program of instruction (POI), which will be fully implemented within the ARNG in FY 1990, will enable the soldier to complete the course in a

12-month period at his Army Aviation support facility. During this time, the enlisted soldier will attend training with his unit trainer and instructor pilot in an inactive duty or additional flight training period status.

At the completion of training at the Army Aviation support facility, the 93B student will attend an active duty for training phase of 2 weeks at one of the two AATSs. Training during the 2-week period will include aeromedical subjects and end-of-course checkrides. Successful completion of the course will result in the soldier being awarded the 93B MOS. The ARNG anticipates training 120 enlisted aeroscout observers yearly.

Another training initiative undertaken in the ARNG is the 67V transition course. In April 1989, the Eastern AATS began a 67V, observation helicopter repairer, transition course. This 2-week course was developed to train soldiers who are qualified in a CMF 67-series MOS and are now serving in a 67V position but are not MOS qualified. The course is offered in both the OH-6A Cayuse and the OH-58A Kiowa aircraft. The POI concentrates on "systems" and the critical soldier tasks extracted from the applicable soldier training publications. The Eastern AATS is capable of training more than 100 observation helicopter repairers yearly.

Senior noncommissioned officers (NCOs) in the ARNG Aviation program met in June at the 1989 Aviation NCO Symposium conducted at Ft. Rucker. The command sergeants major from the ARNG Aviation brigades and groups and the two AATSs attended the symposium at the invitation of the Aviation Center command sergeant major. This forum provided an excellent opportunity for the key NCOs in the ARNG Aviation program to interact with their counterparts in the Active Component and to define issues that are unique to the ARNG.

Of great interest to ARNG Aviation NCOs is the Reserve Component (RC) Configured Courseware (RC3) for the basic and advanced NCO courses. As the RC3 is developed and fielded, the aviation NCOs will be concerned with completing the required courses to improve their technical and leadership skills. Implementation of these courses will be in accordance with the RC training strategy.

It is an exciting time to be a part of the ARNG Aviation Program. As some units train on new systems such as the AH-64 Apache and the UH-60 Black Hawk, others continue to improve their readiness on the more mature systems such as the UH-1H Huey, OH-58A Kiowa and AH-1F Cobra. The backbone of our success continues to be the dedicated NCOs who train and maintain to the highest standards.

ASET II COURSEWARE

Aircraft Survivability Equipment Trainer (ASET) II courseware is scheduled for fielding in third and fourth quarters of fiscal year 1990. The Electronic Information Delivery System (EIDS) hardware may reach units before the ASET II courseware. National Guard units are scheduled to receive the EIDS hardware in August 1989; all other units are scheduled to receive the EIDS hardware after August 1989. Units are reminded that this hardware is designated for ASET II courseware usage. Control of the hardware is the responsibility of each unit.

The Project Manager for Aircraft Survivability Equipment (PM-ASE) and the Directorate of Training and Doctrine (DOTD) at the U.S. Army Aviation Center, Ft. Rucker, AL, will contact units regarding EIDS deliveries, security requirements and courseware fielding.

Questions concerning ASET II should be addressed to: John Kamadulski, PM-ASE, AUTOVON 693-1477; or Elizabeth Plumb, Aviation Center, DOTD, AUTOVON 558-4110.

AVIATION PERSONNEL NOTES

Intermediate Level Education (MEL-4) Study

On 22 December 1988 and 18 January 1989, the MEL-4 Study group briefed the Chief of Staff, Army (CSA) on its findings and recommendations. The study methodology focused on three distinct areas: determining requirements, examining Command and General Staff Officer College (CGSOC) capacity and composition, and developing selection and slating options. This is the first time the requirements portion has been captured. The decisions from the briefing impacted the April 1989 CGSOC selection board and will affect future boards. Decisions are keyed to leader development action plan initiatives.

The requirements survey identified 16,606 Army MEL-4 requirements for majors and lieutenant colonels. This included both Army and joint duty assignment positions. This equates to an annual MEL-4 training requirement of 1,709.

The review of CGSOC capacity resulted in 12 options, of which 6 were studied in detail. The approved option was to expand CGSOC capacity to 1,280 seats in academic year (AY) 1990-1991. An additional review will be conducted in December 1989 to assess if a new training system for CGSOC is needed to increase CGSOC MEL-4 output for AY 1991-1992 and beyond.

Historically, the composition of selectees has been 64 percent combat arms, 16 percent combat support and 20 percent combat service support. The requirements study identified a breakout of 59 percent, 21 percent and 20 percent, respectively. Based on the expanded capacity of 1,280 students for AY 1990-1991, the decision was made that future CGSOC composition will be 60 percent combat arms, 21 percent combat support and 19 percent combat service support. Branch bands will be established for each selection board to ensure these composition rates are met. The Officer Personnel Management Directorate cohort year group selection rate will remain at plus or minus 50 percent. Branch bands should ensure the same for each branch within a year group. The selection rate will be spread over 5 years. As initiated in the AY 1989-1990 CGSOC board selection process,

below the zone selection for promotion to major will continue to be automatic selection to resident CGSOC. In addition, each cohort year group will receive four proceeding CGSOC board reviews weighted to the first and second look. This decision will allow officers to be selected a little earlier and to attend earlier. This action will help signal those officers not selected early to enroll in and complete a nonresident program before entering the zone of consideration for promotion to lieutenant colonel.

The slating process presently maintains a deferred pool of officers selected but unable to attend CGSOC because of time onstation or operational needs of about 950 officers. A deferred pool buydown over the next 3 years, starting in AY 1990-1991, is planned to reduce the deferred pool to a steady state of 700 officers. Since the capacity is being increased at the same time, this change should not impact on selection rates.

As currently proposed, the Armed Forces Staff College will conduct only joint professional military education phase II training at the end of AY 1989-1990. The CSA decision postures the officer corps to accept this situation in stride and ensures that each cohort year group will continue to receive a CGSOC selection rate of plus or minus 50 percent in the future. In addition, the decision ensures that CGSOC selection rates will achieve a mix and, therefore, rate more favorably to branch health. The decision recognizes the challenge of larger cohort year groups entering the CGSOC window and meets the identified needs of the Army for MEL-4 qualified officers.

Career Management Field (CMF) 67 Restructured

On 1 May 1989, the Deputy Chief of Staff for Personnel approved the restructure of CMF 67. Ft. Rucker, AL, initiated this action last year. It will eliminate the 66-series military occupational specialty (MOS) but not the essential technical inspection (TI) training. The TI training will now be conducted in the Basic Noncommissioned Officer Course (BNCOC) for the various 67- and 68-series MOS. This action will enhance the overall competence of the Army Aviation noncommissioned officer corps and provide commanders in the field more flexibility when selecting TIs. In addition, it will enable the U.S. Army Logistics School (USAALS), Ft. Eustis, VA, to save training time and dollars. All soldiers holding the 66-series MOS will be awarded credit for the BNCOC as they are redesignated. Integrated training is scheduled to begin in October 1989. Complete details are available in the memorandum of change published by the U.S. Army Soldier Support Center-National Capital Region (SSC-NCR) in May 1989.

15D Occupational Survey

The SSC-NCR, in conjunction with USAALS, will conduct an occupational survey of area of concentration (AOC) 15D aviation logistics officers to gather occupational and training related information on jobs and tasks that these officers perform. Analysis of the survey will be used to improve current training and provide a basis for future training decisions.

The SSC-NCR will mail the survey to select AOC 15D officers worldwide this month and next. Participants are encouraged to carefully consider each question as it applies to them and their current jobs. A speedy response will be appreciated. The point of contact at USAALS is Captain Berry, AUTOVON 927-6152.

Primary Leadership Development Course (PLDC) and Promotions

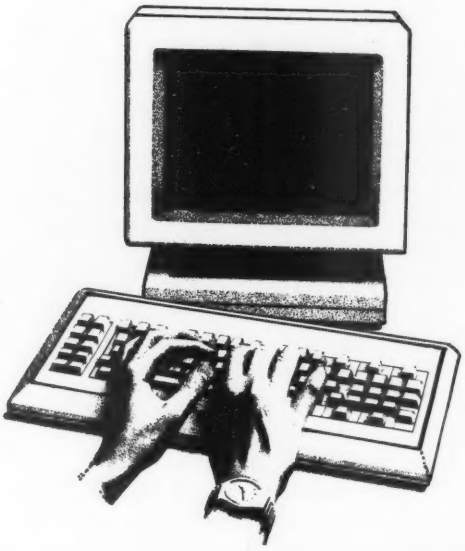
Promotable specialists and corporals who have *not* graduated from the PLDC will not lose their promotable status when PLDC becomes a prerequisite for promotion to sergeant on 1 October 1989.

Previously, the decision established PLDC as a prerequisite for promotion to sergeant. Under the modified rules, commanders can recommend soldiers for promotion without regard to PLDC; however, soldiers will not be promoted until they graduate from the course.

As the capacity to train soldiers at PLDC increases, these interim rules are expected to be lifted.

Automated 759 Flight Record System

Mr. William A. Rowe
Directorate of Evaluation and Standardization
U.S. Army Aviation Center
Fort Rucker, AL



TIMES HAVE CHANGED quite a bit since computers were mysterious tools understood and controlled by a gifted few. Personal computers with capabilities well beyond some of the old mainframes have become commonplace. We have entered an era in which computer hardware and software abound. Automation's full potential is just beginning to unfold. The range of possible applications seems limited only by imagination and resources.

One area of application in which the Directorate of Evaluation and Standardization (DES), U.S. Army Aviation Center, Ft. Rucker, AL, has a very special interest is in the automation of flight records. The total integration of computers and flight records keeping can provide many benefits. The benefits of automation could extend well beyond the time that 93P flight operations coordinators could save within each aviation unit. Let's consider just a few examples.

Scenario: An aviation assignment officer at the U.S. Total Army Personnel Command, Alexandria, VA, turns to the microcomputer on his desk. He enters commands that link his computer to the U.S. Army Aviation Center flight records database at Ft. Rucker. When requested, he enters a special access user identification code. He then proceeds through a series of menus to specify a flight experience summary report. His report format focuses on a group of individuals due for reassignment to new duty stations. Within 5 minutes, the operator downloads the report to a file on his computer. With the filed information, the assignment officer can match an aviator's background to units that will take the greatest advantage of his or her flight experience and abilities.

Scenario: The U.S. Army Safety Center, Ft. Rucker, conducts a study of mishap trends

covering 5 years. The research team wants to determine any relationship between the Army's flying hour program and fluctuations in mishap rates. One of the analysts uses her microcomputer to access the Aviation Center flight records database. She uses the database menus to request a 5-year summary of the flight hours flown by the airframe category. She especially wants the summary to show the percentage of time applied to night vision goggles. Within minutes, the data are downloaded to her computer for reviewing and printing.

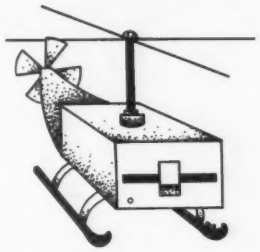


illustration by Maureen Ryan

Scenario: Chief Warrant Officer, CW3, Smith, an instructor pilot with many aircraft qualifications, reports in to his new unit at Ft. Hood, TX. He comes directly from Ft. Rucker where he attended the Aviation Senior Warrant Officer Training Course for the last 3 months. Before that time, he was on a month's leave after departing his last unit in Korea. When he checks in with his new unit, he finds his flight records folder has been "misdirected." The unit's flight operations officer says he doesn't anticipate any problem tracking down the records jacket. To avoid any major inprocessing delays, however, he enters a restricted entry code and the social security number of the new arrival into a nearby desktop computer. Within seconds, all of CW3 Smith's flight records are downloaded into the receiving unit's database. Even though his records folder isn't immediately available, the unit has a good accounting of his qualifications and experience. With little delay the unit can now put the new aviator to work.

These accounts, although fictional, are well within the reach of our existing data processing technologies. Such visions of the future will soon become reality. To be able to function at that level, however, DES needs to establish a fully automated flight records system and centralized database. DES recently has taken the first substantial step in that direction by two programs known as Versions 1 and 2.

Version 1

DES distributed an automated 759 in February 1987. That first effort, referred to as Version 1, provided a workable program that, unfortunately, was a bit too cumbersome. It also lacked the flexibility needed to address the wide range of available computer systems.

That first attempt did not achieve the expected high degree of success. Nonetheless, DES learned many valuable lessons and contacted numerous computer enthusiasts within the Army Aviation community. More than 140 such individuals who had tried DES's first automated 759 gave feedback. Their input enabled DES to establish a significantly improved automation format for flight records.

Version 2

DES teamed with the Directorate of Information Management at Ft. Rucker in April 1988 to develop new programs that supported DES's newly defined format. The first priority was to create an effective program, referred to as Version 2, at the unit level without requiring users to be computer experts.

The resulting version of the automated 759 was developed first and foremost to be user friendly. It is a menu driven system. That is, if the user knows the procedures for maintaining flight records, that individual should feel fairly comfortable with the software. As DES discovered in its field tests, if the user is already experienced with desktop computers, the individual can use the software with little reliance on the user's manual.

The programing structure of the present version of the automated 759 is sound and economical. This software will soon become the Army Aviation community's standard for automated flight records keeping. Ultimately, the system will provide the necessary foundation for the construction of the Army's centralized flight records database.

System Requirements and Features

The software is designed to run on IBM compatible systems using DOS 2.1 or higher. A full compliment of memory, such as 640K bytes, is necessary for the computer.

A hard disk drive is required. It must provide about 2.5 megabytes of storage space for the automated 759 subdirectory. Operators can use either a color or monochrome monitor. The software includes the menu to support a wide range of printers. All printers must be capable of printing 17 characters per inch and 8 lines per inch.

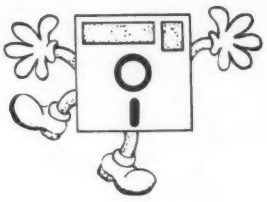


illustration by Maureen Ryan

The software handles all flight hour computations. The user enters flight hour data onto a "user friendly" screen from Department of the Army Forms 2408-12, Army Aviator's Flight Records. Then the user calculates all necessary summary reports and closeouts. The user can use a microcomputer to search flight records for every individual on flight status in a unit. As a result, he or she can find many summary reports on the unit flying hour program. The user produces the selected individual summary, as well as the form itself, on the computer system's printer. All report forms produced by this software are in accordance with regulatory requirements and, therefore, are acceptable in place of preprinted 759 series forms.

Annual closeouts are simplified by an automatic birthday scan at the end of each month. On the last day of the month, when the user completes all data entry transactions, the program provides a list of individuals for whom record closeouts are in order. Unique circumstances may require that one or more of those listed not be closed out. After those individuals are identified to the computer, the user completes and prints all other closeouts for the month automatically.

The software provides an accurate transfer of files. The main menu has an option that permits the user to download and upload individual records to and from a 5-inch floppy disk. Thus, when aviators leave a unit, all of their flight hour data can be transferred to a receiving unit's computer.

The program does not require the purchase of any supportive applications packages. Because the program can "stand alone," units do not have difficulty procuring the software commercially.

The automated 759 package consists of three 5-inch diskettes. Two diskettes contain the program; the third contains the user manual with a series of batch routines for printout on the unit's dot matrix printer.

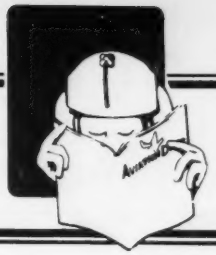
DES is in the first phase of a multiphase effort aimed at establishing an Armywide flight record network. At this stage of the effort, use of the automated 759 program is voluntary. DES has distributed master copies of the software package to the following headquarters:

8th Army, Korea
U.S. Army Materiel Command
U.S. Army Training and Doctrine Command
III Corps, Ft. Hood, TX
V and VII Corps, Germany
XVIII Corps, Ft. Bragg, NC
All 18 divisional combat aviation brigades
All numbered armies
National Guard Bureau

Subordinate units should contact the aviation staff officer at their headquarters to request copies of the software. Detachments not associated with any of the locations listed may order copies of the software by calling the automated 759 hotline, AUTOVON 558-4280 or Commercial 205-255-4280. Callers after normal duty hours should leave their name, phone number and unit address. DES will mail a software package to them within 48 hours.

DES welcomes your inquiries and requests to focus attention on an area of major importance. Write to us at: Commander, U.S. Army Aviation Center, ATTN: ATZQ-ES, Fort Rucker, AL 36362-5208; or call us at AUTOVON 558-3504 or Commercial 205-255-3504. After duty hours call Fort Rucker Hotline, AUTOVON 558-6487 or Commercial 205-255-6487 and leave a message.

VIEWS FROM READERS



Editor:

A fellow veteran recently gave me a copy of your July 1986 magazine. It contained part II of a series of articles on Lam Son 719. I am writing in hope that I could obtain both part I and part III of this series (June, volume 32, number 6 and August, volume 32, number 8).

I am a former member of A Battery, 2d Battalion, 94th Artillery (108th Field Artillery Group) and was a participant in this operation.

I found your article to be well written and factual. I remember very well the fire support that Army Aviation units provided to all the allied units that participated in this operation.

My perspective as a "red leg" was somewhat different than those who flew into Laos. I remember the intense "artillery duels" between our 8-inch howitzers and the North Vietnamese 152-mm howitzers in the hills surrounding Lao Bao.

I also remember the sad sight of the many disabled helicopters being towed (slung beneath) by the other choppers, back from Laos, toward Khe Sahn Combat Base. This alone spoke largely of the intense antiaircraft fire there.

Many medical evacuation aviators and crews braved savage incoming fire to evacuate our wounded artillerymen. To those brave pilots and crews whomever and wherever you are, I say: Thank you and God bless!

Gary Rafferty
Hudson, NH

Editor:

I would like to announce in your publication that the Liaison Pilot and Aircraft Association is now "open for business." Its newsletter *Liaison Spoken Here* is now in print and available to liaison aircraft pilots, crewmembers, mechanics, owners and enthusiasts of all armed conflicts in all nations.

Anyone wishing a copy may send me their name and address. I will be happy to send them a copy by return mail. It has a special section titled Lost and Found for those enthusiasts who wish to correspond with, or unite with, old or new friends. It also contains a liaison-related section titled Calendar of Events and many other items of interest for enthusiasts. Letters may be addressed to:

Bill Stratton
16518 Ledgestone
San Antonio, TX 78232

Readers can obtain copies of material printed in any issue by writing to: Editor, U.S. Army Aviation Digest, P.O. Box 699, Fort Rucker, AL 36362-5042.

ATC FOCUS
U.S. Army Air Traffic Control Activity

Life in Tactical ATC Demands Talent, Motivation, Leadership

First Sergeant John M. Morrison
A Company
1-58th Aviation Regiment
Fort Campbell, KY

UNDERSTANDING combat support air traffic control (ATC), the mission, support and requirements for basic support is probably the greatest problem facing tactical ATC units today. The realignment of the four ATC combat support battalions into a single regiment has significantly organized these tactical assets; however, platoons are subordinate to an aviation brigade at each major post location.

As an air traffic controller since 1971, I have seen ATC rise and fall during reorganizational changes. Aviation not fully employing its ATC assets is one concern. Many times the ATC units deploy to the field and are improperly used; however, the unit still must be tactically certified and fully operational. Another concern is aviators do not want to talk on the radio and reveal their position. In a combat situation, this is absolutely right. With all the emphasis on safety, however, an aviator's greatest asset could be an air traffic controller in a landing zone or a flight following center. The air traffic controller flight follows the aircraft and alerts other airspace-using agencies of the position and presence of the aircraft. More important, the controller alerts other military aircraft in the area to lessen the possibility of a midair mishap.

Elements of A Company, 1-58th Aviation Regiment, are located at two different locations. The company headquarters is at Ft. Campbell, KY. The unit's basic mission is to provide tactical ATC services to the 101st Airborne Division (Air Assault), 24th Infantry Division (Mechanized) and XVIII Airborne Corps. The 1st and 3d Platoons are located at Ft. Campbell; and 2d Platoon, supporting the 24th Infantry Division (Mechanized), is located at Hunter Army Airfield, Savannah, GA.

The 1st Platoon is the largest ATC platoon in the Army. It supports three infantry brigades as well as the aviation brigade at Ft. Campbell. Its basic structure is as follows: two control tower teams to support two division instrumented airfields; two ground-controlled approaches; one flight operations center; and five tactical tower teams. The 3d Platoon has an inactive mission to support the XVIII Airborne Corps; therefore, it also augments the 1st Platoon to support the division.

Understanding the 101st Airborne Divisions's tactical air assault and worldwide missions can help the soldier understand tactical ATC. The division must prepare to deploy on short notice anywhere at any time with all assets ready to roll

within 18 hours. Tactical ATC has played an integral part in division operations. New equipment and better trained personnel have enhanced the tactical mission and the air traffic controller's performance.

One of the most important missions A Company supported to date was in 1983 when the 101st Airborne Division (Air Assault) was alerted for Honduras. This was one of the first missions of its kind: to alert, deploy and use ATC. Only one platoon existed at that time and it took all of its assets to deploy and support such a vast regional mission as the 101st set up in Honduras. Today the Air Force assumes that mission.

Since its inception in 1978, A Company also has supported every major exercise of the 101st Airborne Division (Air Assault) to include Big Pine, a logistically, intensive type mission. On numerous occasions the company has been called upon to support worldwide missions. Recently in Ecuador A Company provided flight following service where none had previously existed in support of the Blazing Trails exercise.

Where the 101st Airborne Division (Air Assault) goes, so goes A Company, 1st Battalion, 58th Aviation Regiment. The company recently returned from Ft. Chaffee, AR, where it supported the division in a real-world mission. It provided the division with ATC services at Davis Airfield, OK. It also provided flight following service to participating aircraft on the Ft. Chaffee reservation during the Joint Readiness Training Command exercise. The unit self-deployed, logging more than 40,000 miles and using 25 vehicles without any problems. This is a tremendous credit to the operators and the maintenance personnel responsible for the 1960s-vintage 2 1/2-ton type trucks.

Employing tactical ATC means understanding the unit, its mission and its resources. The tactical air traffic controller is the same calibre controller as his counterpart in the civilian community. He has to be trained in all aspects of combat support operations in addition to procedures each civilian ATC controller receives.

His job starts early in the morning with rigorous physical training. The tactical controller spends much of his time in the motor pool. This is because he has to ensure his vehicles will transport him and his equipment to the field and return. He then must make sure the unit's tactical ATC tower, flight operations center and the ground-controlled approach radar are fully operational.

He must also complete a great deal of training for skill qualification tests, common military training and common task training to include rifle range annual qualification. In the meantime, missions planned or in progress require him to deploy to a foreign country or across the United States for weeks at a time. When a tactical mission is called, many times the same soldier deploys on two missions back-to-back without a break.

Life in the tactical ATC unit is not easy; it requires a lot of motivation, talent and leadership. Leadership is critical. Personnel take care of soldiers, support the mission and perform a great deal of coordination before, during and after each mission. These soldiers earn their pay.

Understanding tactical ATC means involving the tactical ATC unit in the initial planning. Wherever the unit deploys, coordination is required with the local Federal Aviation Administration on ATC procedures and rules governing that particular exercise area. Soldiers can then support the mission and ensure a smooth operation by assisting and getting the right clearance for special operations the task force commander may need to perform.

The reliability and serviceability of unit ATC equipment depend on unit leaders to perform several duties: supervise, perceive problems, find equitable solutions and care for their soldiers. Caring involves the love and effort of being there in times of need: responding to the family in crisis; providing guidance and compassion when needed; and resolving the conflicts that inhibit a soldier's ability to perform. It takes a good soldier to make it and sustain in the tactical ATC field.

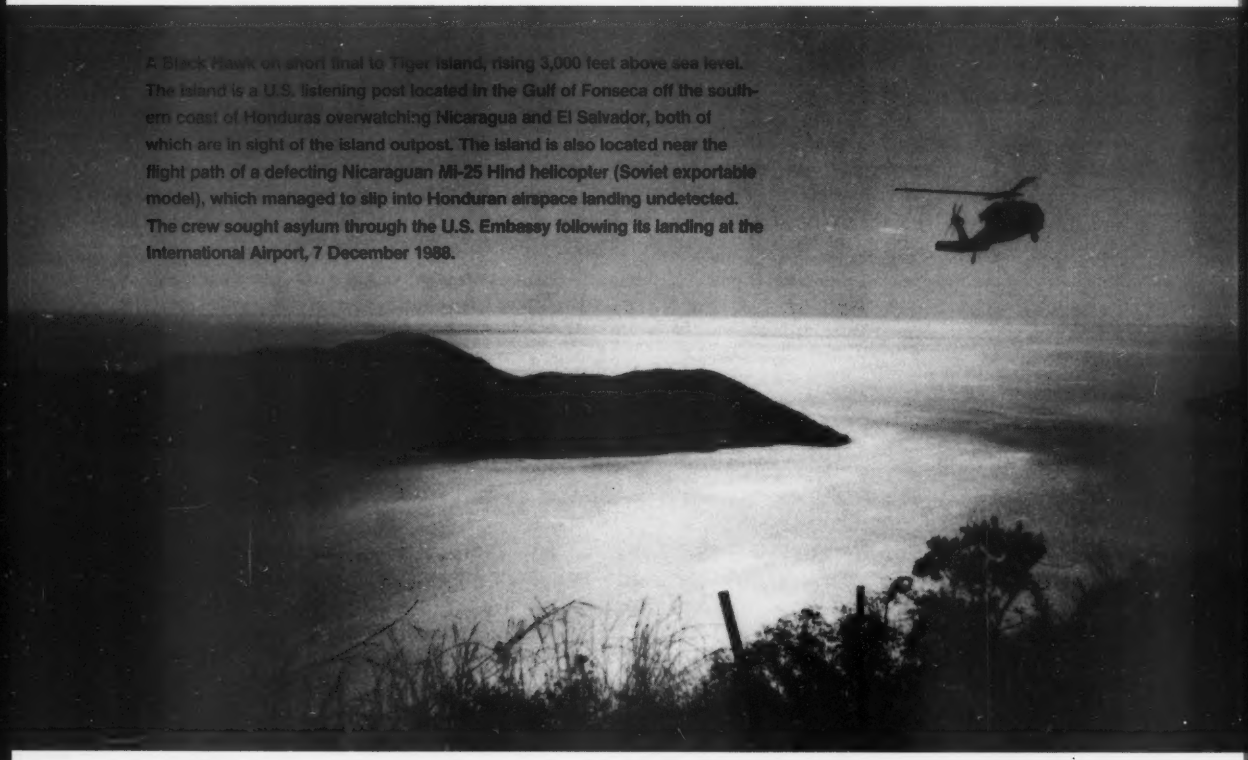
To the soldiers of A Company, I salute and admire you for caring about your units and performing the mission in the manner that has earned a quality reputation over the past few years. Remember our motto, "Deconflict—Clear the Way."

Readers are encouraged to address matters concerning air traffic control to Commander, USAAVNC, ATTN: ATZQ-ATC-MO, Fort Rucker, AL 36362-5265.

MONTHLY WRITING AWARD

82D AVIATION BRIGADE

In a Joint Task Force-Bravo operation to support El Salvador, Guatemala, Belize and Honduras in their tactical and logistical mission, the 82d Aviation Brigade has made some startling advances. The following article gives an indepth account of the 82d's role in providing regional support to SOUTHCOM.



A Black Hawk on short final to Tiger Island, rising 3,000 feet above sea level. The island is a U.S. listening post located in the Gulf of Fonseca off the southern coast of Honduras overwatching Nicaragua and El Salvador, both of which are in sight of the island outpost. The island is also located near the flight path of a defecting Nicaraguan Mi-25 Hind helicopter (Soviet exportable model), which managed to slip into Honduran airspace landing undetected. The crew sought asylum through the U.S. Embassy following its landing at the International Airport, 7 December 1988.

DEPLOYS TO HONDURAS

Major William M. Jacobs
82d Airborne Division Aviation Brigade
Fort Bragg, NC

THE 82D AVIATION Brigade, the Army's newest, is already marking the historical trail.

October 1988 marked the first time ever that the 82d Airborne Division's Aviation (Avn) Brigade (Bde) deployed to Central America in support of Southern Command's (SOUTHCOM's) Joint Task Force-Bravo (JTF-B). Headquartered at Soto Cano Air Base, Honduras, the JTF-B aviation task force has the mission to provide regional support to El Salvador, Guatemala and Belize as well as Honduras.

The overall task force mission, which is commanded by Colonel Ward A. Miller, is to provide a tactical and logistical support base for Joint Chief of Staff (JCS) contingencies in the region while supporting deployed for training (DFT) units across the joint service spectrum. A few key personnel are assigned for a 1-year short tour; however, most of the "permanent party" folks are stationed at Soto Cano for 6 months. To maximize the training opportunities throughout the Army community, the aviation element is deployed for 120 days, resulting in 3 annual U.S. Army Forces Command (FORSCOM) rotations.

The JTF-B rotation presents a terrific opportunity to deploy a battalion-sized helicopter unit to a new and challenging environment under the best conditions a commander could possibly hope for. Before deployment much preparation and several specific training initiatives must be accomplished that are peculiar to the nature of the mission and environment. The terrain, however beautiful in Central America, is unforgiving and presents numerous challenges to the Army aviator. In addition, Honduras and Guatemala are low-intensity conflict areas; El Salvador is designated an imminent danger area. The political instability of the region creates the most concern, and requires accurate tactical intelligence and detailed operations planning to safely accomplish the mission.

Designated "Task Force Pegasus South" by Colonel R. Dennis Kerr, commander of the 82d Avn Bde, the 82d aviation task force deployed 2 weeks before mission assumption. The unit was task organized based on functional areas resulting in the formulation of six companies. The headquarters and maintenance companies were typically organized in most respects. The maintenance company was the largest subordinate command comprised of an aviation unit maintenance (AVUM) and aviation intermediate maintenance (AVIM) composite element.

The 82d Aviation Task Force command and staff just before redeployment.

A JTF-B CH-47 (above) from the 2d Bn, 159th Aviation Regiment prepares for a mission on the recently expanded ramp (top). Logistical sustainment to remote areas would be impossible without the Chinooks.

Ten UH-60 Black Hawk aircraft from B Company, 2d Battalion (Bn) (Assault), 82d Avn Regiment (Regt), were deployed via C-5A Galaxy cargo planes. The CH-47 Chinook detachment self-deployed overland through Mexico and Guatemala, starting out from two locations, Ft. Bragg, NC, and Hunter Army Airfield, GA. The four Chinooks were detached from A and B Companies, 2d Bn, 159th Avn Regt, 18th Avn Bde. The 1st Bn, 159th Avn Regt UH-1 Huey crews accompanied the main body to Honduras where they fell in with the nine permanently located UH-1 helicopters. Three of these are further detached to the El Salvador U.S. Defense Attache Office/ Military Group. Finally, the three medical evacuation (MEDEVAC) helicopters and our assigned medics comprised the sixth company.

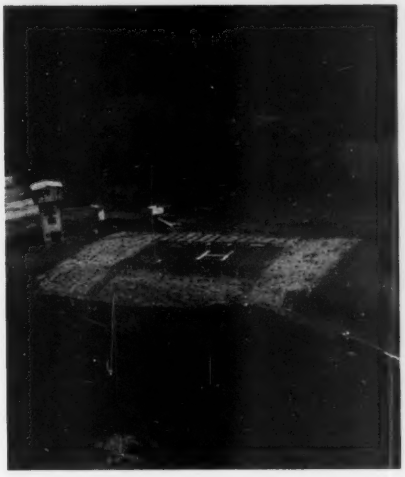
The makeup of our personnel was just as diverse, originating from 10 different units. Included were personnel from the headquarters company, the assault and attack helicopter battalions and air cavalry squads within the 82d Avn Bde, the 1st and 2d Bn, 159th Avn Regt, 18th Avn Bde; the 577th Aeromedical Evacuation Company, the 313th Military Intelligence Bn; the 82d Signal Bn; and I Company (AVIM), 189th Maintenance Battalion; as well as members of Headquarters, 82d Airborne Division. Part of the beauty of this composite unit extended from the team work that quickly developed among all the subunits upon deployment. Unit identity, so important to building esprit, emerged even more strongly after the task force activation ceremony, which was presided over by the XVIII Airborne Corps commander, Lieutenant General Carl W. Stiner.

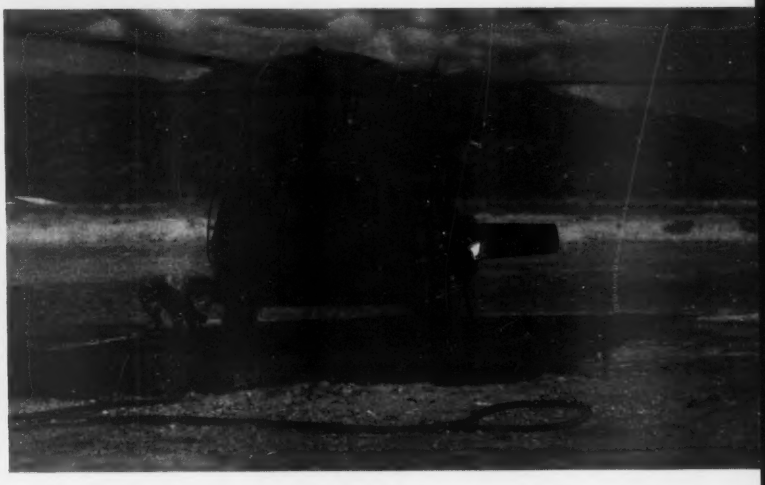
The real benefits gleaned from a deployment to low-intensity conflict were realized through tough individual and collective training. The FORSCOM letter of instruction that prepares the deploying unit includes requirements for survival, escape, resistance and evasion, weapons qualification, deck landing qualification and mountain training. In addition, while deployed, we were able to conduct M-60D aerial gunnery with the Hondurans.

Inherent in the daily mission execution, external load and mountain sustainment training skills are enhanced with the completion of every operation. The aviators get good at what they are doing in no time at all. Imagine the extent to which each pilot has finely honed his skills after flying an average of more than 150 hours in austere conditions during a span of only 4 months.

When the aviator reports to flight operations before each mission, one can be assured that he has exercised great care in computing his particular aircraft performance planning data before launch. The environment allows for no margin for error. This is particularly true when the mission calls for a CH-47 with a 16,000-pound bridge external load or a Black Hawk with an 8,000-pound water and fuel slingload flown to a pinnacle 7,000 feet above mean sea level—especially on a hot day. Who said you can't run out of left pedal in a UH-60?

Search and rescue (SAR) planning and execution take on new meaning in a country where communications and air traffic control facilities are at a premium or only sporadically available. To initiate a timely and accurate search in the absence of communications, strict adherence to the flight routes by the pilots is absolutely necessary. Navigation expertise is a critical skill each aviator must possess, not only to heighten SAR efforts, but to enhance normal flight following. Flights





The environment allows no margin for error when UH-60 Black Hawks (left) sling 8,000 pounds of water and fuel to remote sites, such as the Air Force TACAN site (below left), located at 6,500 feet altitude. Sergeant Joseph Edmondson (below) fuels his aircraft en route to Camp Castle, another remote site.

routinely carried out near the sensitive border of Nicaragua, and international flights to El Salvador and Guatemala, also require precise and timely navigation to prevent embarrassing international incidents that could adversely affect our nation's standing among Central America governments.

A number of highlights come to mind looking back over the better than 4-month deployment. The rare opportunity to train in unfamiliar terrain with units of the caliber of the 10th Mountain Division, the 1st Marine Expeditionary Force, U.S. Navy Seal Teams 2 and 4 and a DFT counterpart battalion from the 82d, TF 1-325 Airborne Infantry Regiment, was certainly a memorable and worthwhile experience. The division commander, Major General James H. Johnson Jr., also parachuted into Honduras with TF 1-325.

Perhaps the most valuable and rewarding experience commanding a unit of this nature stems from observing the remarkable climate that allows for junior leadership development to an extraordinary degree. Almost all of the officers and noncommissioned officers held leadership and staff positions that normally called for an individual at least one grade, and some cases, two grades higher. Without fail, the leader rose to the occasion, meeting head-on the new and unfamiliar challenge. Equipped with the confidence and self-assurance gained from the successful negotiation of a difficult problem, they are better able to tackle new and even greater challenges in the future. In this regard, both the individual and the Army greatly benefited.

The outstanding maintenance posture we enjoyed turned out to be yet another pleasant surprise. It is amazing what wrenchbending feats can be accomplished when the attention of all hands is captured without the inherent distractors and interruptions of home station garrison duty. Our troops were well led and extremely motivated to accomplish the tasks at hand. At the termination of each flight, it was as though a swarm of bees would attack the helicopter as it taxied to parking. Scheduled and unscheduled maintenance was safely and rapidly conducted with the requisite number of personnel in attendance and then some.

The UH-1 maintenance platoon performed superbly, maintaining the nine Hueys assigned to Soto Cano Air Base. Since the aircraft change hands every 4 months, and especially since the platoon inherited a 27 percent operational readiness rate, keeping the helicopters flying in top condition was a constant battle. Performing 9 UH-1 150-hour phase inspections during the rotation, the platoon was able to pass on a 95-percent operational readiness rate to the gaining unit. The average time to complete each phase was only 4 days. The Black Hawk platoon fared equally well, completing the rotation with a 97-percent mission capable rate. Many major component changes, including a transmission main module changeout, a main rotor mast extension, and several field site aircraft recoveries, ensured intensive and varied training for our crewchiefs and mechanics.

Seated in the Huey is CW3 Art Yearby, the man personally responsible for restoring the UH-1 fleet to mission-capable status. He was supported by a great team from 1 Bn, 159th Aviation Regiment and I Company (AVIM), 189th Maintenance Bn, Ft. Bragg, NC.

Besides the daily mission of the maintenance company, 40 mechanics participated in an exchange program with the Honduran Air Force colocated at Toncontin International Airport in the capital city, Tegucigalpa. Weekly, three to five mechanics traded places with their Honduran counterparts for 4 days. The program provided for cross-fertilization of ideas while culturally enriching the lives of all the participants and generally improving relations. The U.S. mechanics found the exposure to the variety of aircraft (UH-1B/H/M/N, OH-6A Cayuse and CH-47) interesting.

The task force flew more than 3,000 flight hours while maintaining an operational readiness rate consistently greater than 90 percent; always significantly above the Department of the Army

An important reason for our presence in Honduras is humanitarian service such as support to the Nazaret Orphanage.

standard and setting an all-time JTF-B record for sustained maintenance. The level of maintenance varied from preflight to depot level, major component swap-out, engine work and sheet metal repair. The last sheet metal work order accomplished was the result of an aircraft being shot by small arms in El Salvador 15 miles east of the capital city.

Finally, where else could a young pilot in command experience so much growth in so little time? It is an everyday occurrence dealing with tactical units, the U.S. State Department, the U.S. Ambassadors and Defense Attaches to three countries, special operations personnel and our other services. In addition, 4 to 7 February we employed elements representing the entire task force when we were called upon to fly Vice President Quayle and his party, the U.S. Ambassador to El Salvador, and the White House and El Salvador press corps during the Vice President's recent visit to Central and South America.

Other significant activities the aviation task force were involved in included a number of morale support programs and humanitarian assistance efforts. Our troops were able to travel to a few specified locations deemed to be secure enough for visiting U.S. soldiers. The Copan ruins in northwest Honduras; the Bay Islands; the cosmopolitan city of San Pedro, Sula; and Tela Beach were the most popular areas in Honduras frequented by U.S. personnel. In addition, our troopers were granted a holiday leave entitling them to return for a short visit to the United States, or affording them the choice to travel to Guatemala City or Puerto Rico as some of our folks opted to do.

Our MEDEVAC and assault personnel routinely traveled to remote areas of Honduras and Guatemala accessible only by helicopter lending humanitarian assistance. Medical doctors, nurses, dentists and other specialists, including plastic surgeon teams, visited the rural areas to offer their expertise in many areas, improving the health and hygiene of the local people and livestock.

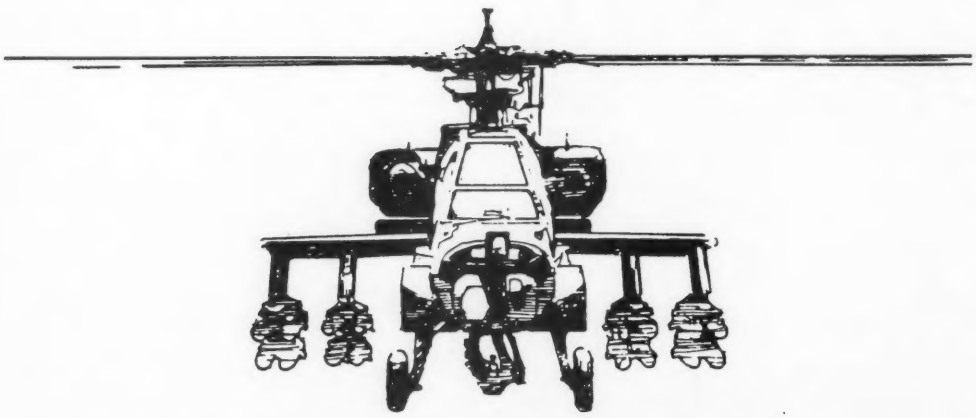
The most personally rewarding experience, by the consensus of all, was our support to, and affiliation with, the Nazaret Orphanage located in the nearby city of Comayagua. There are 22 boys and girls, placed under the care of a Catholic nun and two assistants. During our tenure, we raised more than $2,000 in donations that considering the value of the local currency, was a significant amount of money. Subsequently, our efforts were concentrated on providing the orphanage the means to achieve self-sufficiency after our departure.

We did this by establishing an area council of professionals and neighbors whose expressed interest and commitment would certainly be of lasting value to the orphans. Also, with the help of the First Honduran Air Defense Battalion, we restored electricity to the house and provided water conduits improving the premises and their daily household routine.

Just as important, our families involved themselves by collecting and mailing many items of badly needed clothing and toys. Many lasting personal relationships that will be long remembered were established between our soldiers and the children of Nazaret.

The Joint Task Force-Bravo total experience represents the greatest opportunity for Army Aviation training combined with real-world exposure to a theater on the leading edge of U.S. policy initiatives. The built-in advantage of this intheater orientation to our combat forces significantly enhances our wartime readiness, and may someday pay great dividends to our ability to maintain influence in the region. Our nation's great ability to project combat power, logistically sustain it and then return it safely home, can and probably will make all the difference.

Mr. Albert DeLucien
ARNG Aviation Division
National Guard Bureau

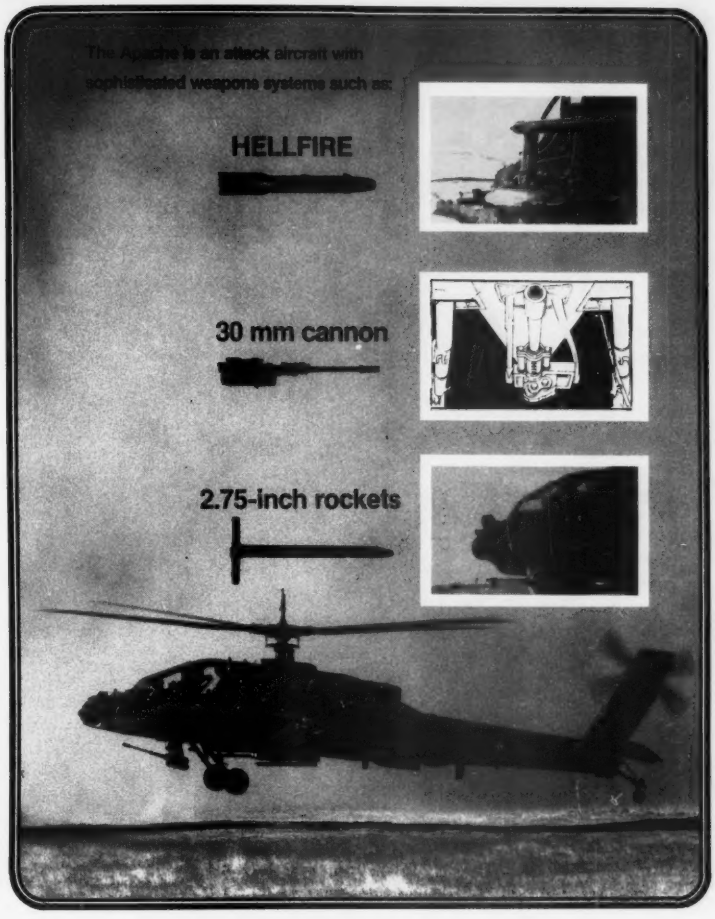


Fielding of the AH-64 Apache Advanced Attack Helicopter

THE ARMY National Guard (ARNG) is scheduled to receive 12 AH-64 Apache advanced attack helicopter battalions (AAHBs) through fiscal year (FY) 1995. The first is already fielded. After a rigorous training program at Raleigh-Durham, NC, and Ft. Hood, TX, 1-130 Avn (North Carolina (NC) ARNG) was certified C-1 for training and equipment. This confirms that the ARNG can perform on an equivalent basis with their Active Component (AC) counterparts.

Active Army (AA) activation of AAHBs uses a single-station fielding concept consisting of about 90 days of tactical training conducted at Ft. Hood. Before beginning this training, battalion personnel are 100 percent technically trained. The full complement of authorized equipment is received at the beginning of the 90-day training cycle. The Vice Chief of Staff, Army (VCSA) directed, in May 1985, that ARNG AAHBs would be filled to the same level of authorized equipment as AA counterparts. ARNG battalions use a VCSA-approved fielding plan that consists of three parts:

Part I: Cadre training is the tactical training of instructor pilots, battalion cadre and key personnel. It takes place at Ft. Hood. About 30 individuals are



attached to the AC AAHB for a complete 90-day, single-station, fielding cycle. The first three AH-64 aircraft are accepted at the beginning of this training.

Part II: Individual and company level training begins formal unit training at home station. Trainers and cadre return from part I training with aircraft. The unit accepts the remaining AH-64s and table of organization and equipment (TOE). All personnel complete technical training before part II individual, aircrew and component level training from instructor cadre at home station. About 55 days of training is conducted over a 12-month timeframe.

PART III: Battalion level training is a deployment of the entire battalion from home station. Battalion level training, gunnery training and the Army Training and Evaluation Program (ARTEP) requires 28 consecutive days at Ft. Hood. All members of the battalion must attend this phase of training. Apache Training Brigade (III Corps) personnel evaluate and certifiy all AAHBs, both AA and ARNG, during this final phase of training. Although the AH-64 fielding timeframe differs between AA and ARNG units, the tasks, conditions and standards of each event remain the same.

The 1-151 Avn (South Carolina (SC) ARNG) and 1-111 Avn (Florida (FL) ARNG) began home station training spring/summer of this year. The 1-151 Avn completed cadre training in October 1988. All aircraft have been received. The 1-111 Avn completed the cadre training phase in March 1989, with all aircraft having been received.

Successful fielding of the first ARNG AAHB has heightened visibility of ARNG aviation. 1-130 Avn (NCARNG) deployed more than 1,500 miles to Ft. Hood for a 30-day annual training period and ARTEP. The unit was at 100 percent modified TOE (MTOE) strength, 100 percent military occupational specialty qualification and had 100 percent of MTOE equipment. Demanding optempo called for about 60 percent night missions, 40 percent day, with 1 day commander's time and a jump tactical operations center that moved every 12 to 18 hours. The training was a job well done for ARNG Aviation. It also vastly improved the credibility of ARNG capabilities in the eyes of our AC counterparts.

The 1-130 Avn (NCARNG) received the Reserve Component ARNG Aviation Unit of the Year Award from the Army Aviation Association of America (AAAA). Major General Donald Burdick, director, ARNG, presented the award at the AAAA National Convention in Atlanta, GA, on 8 April 1989.

Lessons learned from the fielding of the first ARNG AH-64 battalion, 1-130 Aviation NCARNG, have been incorporated into a modified unit training plan. This is a plan of the remaining 11 ARNG AH-64 battalions.

The Evolution of Night Vision Goggles Training in the ARNG

Lieutenant Colonel Bernard Cobb
Flight Weapons Simulator Branch Chief
ARNG Western Aviation Training Site

Mr. Albert DeLucien
ARNG Aviation Division
National Guard Bureau

BEFORE 1981, aviators in the Army National Guard (ARNG) considered night flying to be something done at altitude with primary considerations based on instruments. When the U.S. Army Aviation Center, Ft. Rucker, AL, began offering the night vision goggles (NVG) instructor pilot course, ARNG policies started gearing toward the tactical aspects of night flying. In 1981, National Guard regulations began to emphasize both Nighthawk and NVG training.

When the NVG exportable training packet was issued, the ARNG Aviation Division (NGB-AVN) directed the training program to all ARNG facilities. In 1983, NGB-AVN made NVG training a requirement for all ARNG helicopter pilots. The program required that all pilots be NVG qualified and that 30 percent of each ARNG unit maintain currency with NVG. Because of a lack of equipment, limited training time and aircraft modification work orders (MWOs) awaiting completion, the NVG training requirements were

phased in using milestone dates.

Along with the change effected in the training program, NGB-AVN also appointed a single point of contact for all NVG matters. NGB-AVN also was tasked to implement the training program, ensure the necessary equipment was on hand to meet the training requirement and to ensure that safety consciousness was prominent throughout the program.

A training program of this magnitude required major logistical programing. NGB-AVN conducted a survey to determine the exact number and location of AN/PVS-5 NVG within the ARNG Aviation community. The survey revealed not only a critical shortage of NVG (less than 1,200 Guardwide) but a distribution problem. The survey revealed that some states had 100 percent authorized NVG while other states had a zero balance.

Working with the director, ARNG, 1,200 additional sets of AN/PVS-5s were procured and a redistribution of assets was accomplished. Together these actions brought ARNG Aviation assets to 25 percent of their authorized NVG. This number was considered adequate to initiate the training program. All NVG were consolidated at the facility level and issued to the pilots for training. The ARNG, in conjunction with the Directorate of Combat Developments, Ft. Rucker, also obtained enough dual battery packs to support the training program. With the approval of the cutaway faceplate, a consolidated MWO program also was conducted at state level and all ARNG Aviation NVG were modified in accordance with the Ft. Rucker letter of instruction. These actions provided necessary NVG to conduct the training programs.

The next step, which proved to be the most difficult to complete, was to properly modify the aircraft. In conjunction with the U.S. Army Aviation Systems Command, ARNG funds were used toward the purchase of additional MWO kits. NGB-AVN developed a priority listing to provide enough properly modified aircraft at each ARNG Aviation facility. This program is still in progress today. Another aircraft problem was the availability of the pink light filter. This was overcome by the procurement of 500 of the filters and by manufacturing the frames at the four ARNG Aviation classification repair activity depots (AVCRADs). These filters were then stocked at the AVCRADs and issued to each ARNG facility on an as-needed basis.

Since the inception of this training program, two separate redistributions of NVG and comprehensive aircraft modification programs for ARNG-unique aircraft have been accomplished. The training program has progressed through the qualification phase with outstanding results. As progress continues into the mission training program and the sustainment training, the lack of assets is again becoming a hindrance to the training.

The ARNG has received nearly 700 AN/PVS-5 Bs and Cs. This presents a problem because the faceplates cannot be modified. The corrective action is in place with the fielding of the GM-6 helmet mounting system. This program, developed by the ARNG, uses the AN/AVS-6 aviator night vision imaging system (ANVIS) visor assembly and mounts, and adapts the AN/PVS-5 system to it by using a bracket in lieu of the faceplate. Since the ARNG will continue flying second generation goggles for the foreseeable future, GM-6 fielding is one of the highest priority issues in the ARNG NVG program.

The requirement to maintain NVG currency in the ARNG was waived in fiscal year (FY) 1988, and extended until 1 October 1990, to allow our limited resources to be applied to the needed qualification training.

Another important issue for the NVG program is receipt of AN/AVS-6. Currently, the ARNG is scheduled to receive ANVIS on the same schedule as the U.S. Army Forces Command—40 percent of the ANVIS requirement from fourth quarter FY 1990 through the first quarter FY 1992; then, backfill to 100 percent by the fourth quarter FY 1995. In the meantime, the ARNG continues to train to its 1 October 1990 objective of 100 percent initial and mission qualified with as many as 50 percent of unit aviators maintaining currency.

As of July 1989, more than 70 percent of ARNG aviators are NVG qualified, with more than 30 percent mission qualified. If the GM-6 is fielded as planned in the first quarter of FY 1990, and AN/PVS-5B/C devices enjoy continued distribution to ARNG Aviation units, the 100 percent objective should be attainable by ARNG Aviation.

Lieutenant Colonel Ralph Simmerman
ARNG Aviation Division
National Guard Bureau

Overseas Deployment Training Linked to Initial Entry Rotary Wing Multitrack

A 1987 VICE Chief of Staff, Army decision to go with the initial entry rotary wing (IERW) multitrack concept provided the Army National Guard (ARNG) a unique opportunity to train aviation units in U.S. Army, Europe (USAREUR). As unusual as this relationship may sound, it has provided 46 ARNG UH-1H Huey airframes to the U.S. Army Aviation Center, Ft. Rucker, AL, to support IERW-multitrack. In exchange, the Aviation Center gave USAREUR exclusive ARNG use of 46 UH-1H in the USAREUR Theater Reserve (TR). This exclusive use has taken the form of routine ARNG Aviation unit deployments to USAREUR. Moreover, two ARNG assault helicopter battalions are linked to the use of the TR aircraft—23 Hueys to each battalion. The buildup to overseas deployment training (ODT) has been sequential and progressive.

Throughout 1987, the Army Aviation Division, National Guard Bureau, laid the groundwork, with USAREUR, for the development and support of the ARNG Aviation ODT Program. With the approval of an implementation plan in November 1987, the ARNG began a three-phase development concept. Implementation begins with a unit advance party, then platoon and finally company deployment. Each phase would occur sequentially and in successive years. The concept envisions rotationally deploying, to USAREUR, all three flight companies of each of the two ARNG assault helicopter battalions aligned with the TR aircraft.

In 1988, the two ARNG assault helicopter battalions, 1-106 Aviation (Illinois (IL) ARNG) and 1-244 Aviation (Louisiana (LA) ARNG), successfully deployed to USAREUR with an aviation platoon and an advance party, respectively. In addition to this successful deployment, a staff element of the 1-244 Aviation assisted the 11th Aviation Brigade during REFORGER (Return of Forces to Germany).

In 1989, it is envisioned that an entire assault helicopter company from the 1-106 Aviation (ILARNG) will deploy along with aviation platoon-sized elements of the 1-244 Aviation (LAARNG). At least two company sized rotations are envisioned annually from each of the two battalions for fiscal year 1990 and beyond.

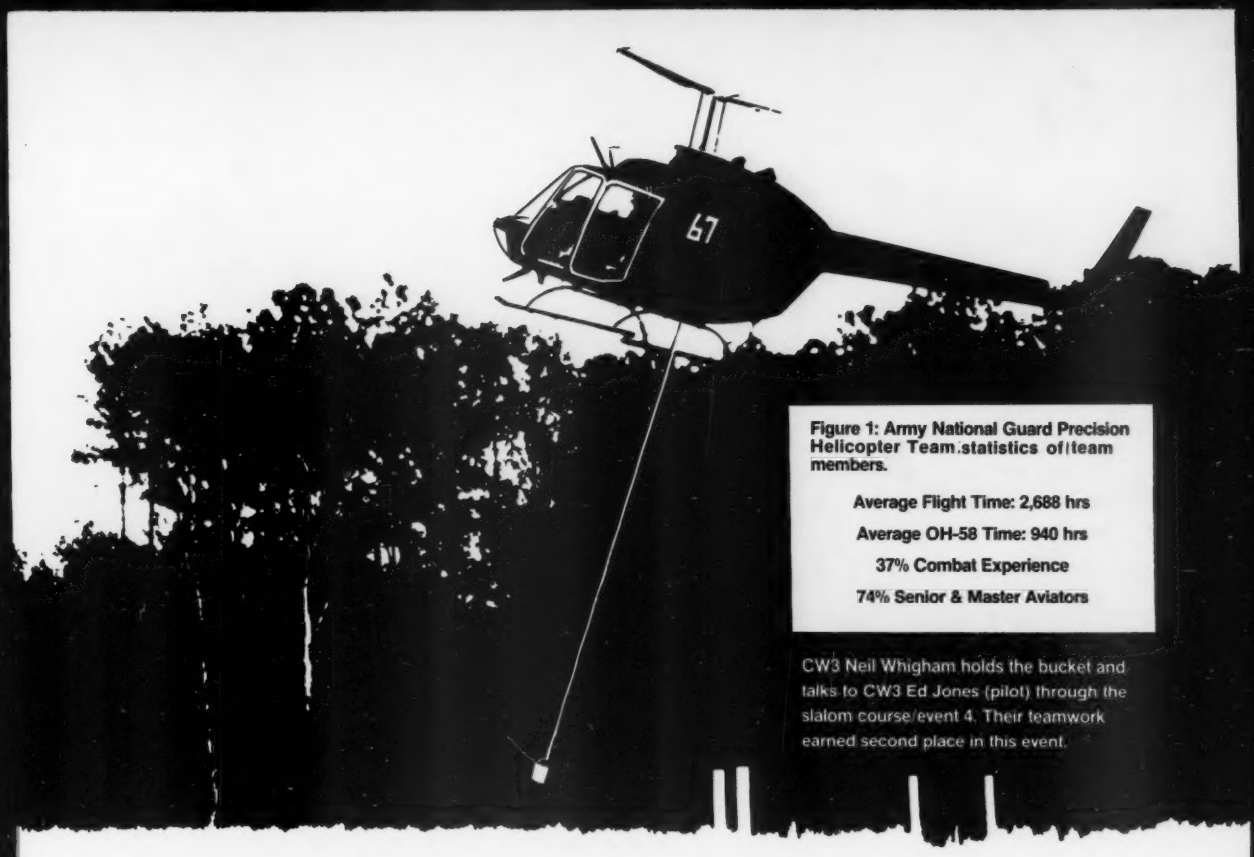


Figure 1: Army National Guard Precision Helicopter Team statistics of team members.

Average Flight Time: 2,688 hrs

Average OH-58 Time: 940 hrs

37% Combat Experience

74% Senior & Master Aviators

CW3 Neil Whigham holds the bucket and talks to CW3 Ed Jones (pilot) through the slalom course/event 4. Their teamwork earned second place in this event.

NATIONAL GUARD Enters the 1989 World Helicopter Competition

Major Arthur J. Sosa
ARNG Aviation Division
National Guard Bureau

THE ARMY National Guard (ARNG) eagerly accepted the Army's invitation and challenge to compete for positions on the U.S. Precision Helicopter Team (USPHT) organized at Ft. Rucker, AL. The USPHT will enter the World Helicopter Competition, 5 to 10 September 1989. This event will be held in conjunction with the International Air Show in Paris, France.

Guard aviators and crewchiefs proudly represented the ARNG at the 1986 World Helicopter Competition, Castle Ashby, England. ARNG aviators CW2 George Egbert and CW2 Paul Hendricks flew in that competition. They contributed to the U.S. team goal, the first place award and the world championship. Guard crewchiefs provided 100 percent of the aviation unit maintenance (AVUM) support to the 1986 USPHT. With their experience and skill, they provided a 98-percent operational readiness rate. This reputation for professionalism made ARNG crewchiefs the first item Ft. Rucker requested for the 1989 World Helicopter Competition.

Of all the states invited to compete, Arizona and Texas provided the crewmembers to form the ARNG USPHT (figure 1). This team trained at Camp Mabry, TX, for 3 weeks to prepare

photograph by CW4 Dan Kingsley

CW3 Luis Alvarado holds the OH-58A steady as 1LT Albert Woo releases the bucket on target. They finished the slalom course/ event 4 in sixth place of the 22 crews in competition.

*Second Place	Position	Units
CW2 George Egbert	PC	WAATS, AZ
CW2 Paul Hendricks	PI	WAATS. AZ
SSG Andres Hernandez	CE	Co D, 149 Avn, TX
***Third Place**	**Position**	**Unit (TX)**
CW3 Ed Jones	PC	Det 1, Co E, 149 Avn
CW3 Neil Whigham	PI	"
SSG Roy Barnard	CE	"
***Fifth Place**	**Position**	**Unit (TX)**
CW4 Maris Stipnieks	PC	Trp D1/124 Cav, TX
2LT Brian Dickens	PI	"
SSG Steven Martin	CE	Co F(-), 149 Avn, TX
Seventh Place	**Position**	**Unit (TX)**
CW3 Luis Alvarado	PC	Co D, 149 Avn, TX
1LT Albert Woo	PI	"
SSG Daniel Balderrama	CE	"
*Selected for the USPHT.		

Figure 2. The ARNG Precision Helicopter Team (results of national competition Ft. Rucker, 20 to 24 March 1989).

for national competition at Ft. Rucker. The Texas National Guard (TXARNG) hosted this training, which provided outstanding support to the ARNG team. Colonel Sam Turk, state aviation officer, TXARNG, and Captain Bob Payne, team officer in charge, TXARNG, set high standards for this training. CPT Payne's strategy incorporated lessons he learned with the 1986 ARNG team, the use of "competition quality" hover courses and his 1986 USPHT students, CW2 Egbert and CW2 Hendricks, as instructors. The daily training included physical training, classroom planning and flight practice on at least two of the World Helicopter Competition events and a detailed outbrief to correct deficiencies.

The national competition at Ft. Rucker began on 20 March 1989 to select six crews for the USPHT. Guard aviators placed second, third, fifth and seventh against 22 top Army, Navy and Marine aircrews. The Guardsmen chosen for the USPHT are shown in figure 2. These aviators returned to Ft. Rucker in April for further training with USPHT cadre. Continuous competitive fly-offs will determine those crews that will actually fly in the Paris competition.

ARNG maintenance support to the 1989 USPHT highlights aviation noncommissioned officer experience. A selection board was convened to review the crewchief nominations proudly submitted by the states. Nine outstanding

The top three crews for the U.S. Precision Helicopter Team are (left to right): CW4 John Loftis and CW2 Ken Wright, U.S. Army, first place; CW2 George Egbert and CW2 Paul Hendricks, U.S. Army National Guard, second place; and CW3 Ed Jones and CW3 Neil Whigham, U.S. Army National Guard, third place.

photographs by CW4 Dan Kingsley

Major General George W. Putman Jr. (U.S. Army, Retired), presents second place award to CW2 George Egbert and CW2 Paul Hendricks (top) and third place award to CW3 Ed Jones and CW3 Neil Whigham (below).

ARNG crewchiefs were chosen to support the USPHT AVUM needs. The average ARNG crewchief chosen has 13 years of aircraft experience and 7 of the 9 are technical inspectors. These individuals reported to Ft. Rucker on 10 July 1989 (figure 3).

The ARNG reflects experience, ambition and training in its support of the USPHT. The ARNG salutes all members of the USPHT and the Total Force effort essential to victory at the 1989 World Helicopter Competition.

Figure 3. United States Precision Helicopter Team crewchiefs.

OH-58 Crewchiefs	ARNG Unit	State
SSG Daniel Balderrama	Co C, 1-149th Avn	TX
SSG Roy Barnard	Det 1, Co E, 149th Avn	TX
SSG Steven Martin	Co F, 1-149th Avn	TX
SSG Andres Hernandez	Co C, 1-149th Avn	TX
SSG Larry Brown	HHC, 109th Engr Gp	SD
SSG John Degand	Co D, 135th Avn	KS
SSG Milton Turner	HHC, 240th Engr Gp	ME
SGT Bruce Snyder	HHC, 147th Avn Bde	MN
UH-1 Crewchief	**ARNG Unit**	**State**
SSG Wayne Henderson	Co C, 1-108th Avn	AZ

Major Rodney F. Dyer
Instructor Pilot
Nebraska Army National Guard

The ARNG Aviator

THE ROLE OF Army Aviation as an integral part of the future battlefield is increasingly apparent. Members of the Reserve Components join the Active Duty members of the Army Aviation community to help meet this challenge. The Army National Guard (ARNG) comprises one of these components. The role of ARNG Aviation has increased in importance over the past few years.

The ARNG commissioned officers, seeking admission to the Army Aviation School, at the U.S. Army Aviation Center, Ft. Rucker, AL, face many challenges not found in the Active Duty environment. Before attending flight school, they must be in an officer's table of organization and equipment/table of distribution and allowances (TOE/TDA) position in an aviation unit. Officers will complete all of the required medical examinations, flight aptitude selection test (FAST) and other procedures as in the Active Duty. The individual state must select officers, transfer them into the proper TOE/TDA position and submit the paperwork for their flight school selection.

Another unique problem faced by many ARNG officers who are seeking admission into flight school is coordinating a 9- to 10-month leave of absence from an often newly acquired civilian career. They must, quite often, prepare to go to flight school with little advance notice in case of a last-minute opening, which rarely occurs.

Except in extremely rare cases, officers' flight school experiences are exactly the same as their Active Duty counterparts. After flight school graduation, the newly trained aviators return to their state to the assigned unit. They also return to civilian careers or schools and resume the role of community members.

As in an Active Duty unit, the ARNG unit quickly integrates new aviators into the unit's aircrew training program (ATP). They will receive all of the appropriate examinations, inbriefs, and oral and flight evaluations usually from a member of the full-time staff. As on Active Duty, when all requirements are met, aviators begin progression through the readiness levels (RLs). Aviators will eventually progress to RL one. Aviators can use 1 year to progress to the next higher level but seldom require that length of time.

Even though ARNG officers are Reserve members of the Armed Forces, they must maintain exactly the same semiannual and annual flight-hour requirements as Active Duty aviators. And, yes, aviators usually are also performing leadership duties that occupy much of the available time. These Reserve aviators not only have the same flight-hour minimums to maintain, they must also fly 18 hours of night time yearly (at least 6 in each

photograph by MSG Paul Crips

In February 1989, CWO Jack M. Briggs, a helicopter pilot for the 102d Medical Detachment, achieved a record 10,000 accident-free hours—a first for the Wyoming ARNG. This achievement is representative of the quality of ARNG aviators.

semiannual period) if occupying a flight activity code (FAC) one position. You may ask if there is a synthetic flight training system (SFTS) requirement. The answer is, "Yes, indeed, if the assigned unit is within the specified distance from an SFTS facility, according to Army Regulation 95-1." The ARNG units also maintain night vision goggles minimums throughout the year as set forth by National Guard Bureau directives. Let us not forget the routine annual proficiency and readiness test requirements, including all the necessary checkrides also.

A logical question often asked is, "When do aviators have time to complete all of these requirements, perform their assigned leadership role and maintain a civilian job?"

As most people know, members of the ARNG, by law, must serve 1 weekend per month and 2 weeks sometime during the year to train. One can easily see that more time is needed to complete the minimum training than is available through these normal training periods. Each member of the unit's ATP is authorized, according to the type of unit of assignment, a designated number of additional flight training periods (AFTPs) annually. An example is that a FAC one aviator assigned to an attack or calvary unit is authorized 48 AFTPs yearly besides the regular weekend drills and annual training period of 2 weeks. Aviators often perform these at night after a normal workday at their civilian job or on a weekend not already scheduled for drill activity.

Aviation Resource Management Survey teams visit ARNG Aviation units on a regular basis as they do Active Duty units. When the teams arrive, they check not only the unit and full-time support personnel but also require part-time aviators to take the Directorate of Evaluation and Standardization checkride.

Progression to pilot in command (PC) in the ARNG is achieved by using the same program as in the Active Component. Pilots are given a period of time to fly as copilots, learn their aircraft and learn the mission. They will then take a PC checkride and they will then begin to perform these duties at the proper time.

ARNG aviators are no different from their Regular Army counterparts. They perform the same minimums, usually in their "spare" time; take the same annual flight evaluations as the Active Duty aviator; and still somehow find time to continue with an officer's career and a civilian occupation. These aviators are, indeed, dedicated members of the U.S. Army Aviation combined arms team. They will perform well, along with the Active Duty component, when they are called upon to fulfill their requirement on the future battlefield.

USAASO SEZ
U.S. Army Aeronautical Services Office

Part 2: Violations of Federal Aviation Regulations

Mr. Jesse M. Burch Jr.
U.S. Army Aeronautical Services Office
Cameron Station, Alexandria, VA

THIS IS a continuation of last month's USAASO SEZ article. Part 1 dealt with the Federal Aviation Administration (FAA) Act, referring complaints to proper military departments for action and the role of the U.S. Army Aeronautical Services Office (USAASO). Part 2 discusses violations and how they affect Army personnel.

In 1967, the Joint Regulation, Navy OPNAV Instruction No. 3760C, Air Force AF 62-5 and Marine Corps Order No. 37602, *Reporting and Investigating Alleged Violations of Flying Regulations,* was cancelled. This Joint Regulation included Army Regulation (AR) 95-12. For 15 years, the Army had no such regulation. When an alleged violation was received, which was seldom, it was given to OACSFOR that later became the Office, Deputy Chief of Staff for Operations and Plans (ODCSOPS). In the late 1970s, because of the unique relationship with ODCSOPS, action officers assigned alleged violations to USAASO. In 1982, because of an increase in the rate of violations received by Army personnel, the Army reestablished AR 95-12. In 1988, AR 95-12 was placed into UPDATE AR 95-3, *General Provisions, Training, Standardization, and Resource Management,* as paragraph 2-7. The Army has revised this paragraph recently and will publish it in the next reprint of the regulation. For the most part, only minor changes were made. However, the following shows one major addition that reflects a change in policy:

2-7. d. *Restricted information. Names of crewmembers of military aircraft involved in actual or alleged violations will be treated as restricted information and not be released to the public or any agency outside the DOD except by proper authority. Any person*

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receiving requests for names of crewmembers of Army aircraft should direct such inquiries to the director, USAASO.

The purpose of the above paragraph is to protect Army personnel from double punishment for the same offense. On several occasions, for example, the FAA proposed action against Army aviators' private and commercial licenses because the aviators violated Federal Aviation Regulations (FARs) while they flew Army aircraft. The other military departments had already adopted this policy. Now the FAA will be presented with a united Department of Defense position.

In the 1960s and early 1970s, Army personnel received very few FAR violations, perhaps one a year. In the late 1970s, they received an alleged violation about once every 2 months. In the early 1980s, this increased to one every 6 weeks and then to one a month. In the last 2 years, they received about one violation every 18 days. The list at right outlines the alleged violations received over the past 2 years.

An air traffic controller's error contributed to at least three of the above violations. Regardless, the rate of violations for Army personnel is increasing. Army aviators should know this and also that a FAR violation may jeopardize their career as an Army aviator.

For more information, contact Mr. Jesse M. Burch Jr., AUTOVON 284-7796/6304, or Commercial 202-274-7796/6304.

TYPES OF VIOLATIONS	NUMBER
Altitude Deviation	**18**
USAASO determined one of these not to be a violation and so informed the FAA. USAASO could not complete the investigations on three alleged violations, because the individuals separated from the Army.	
Unauthorized Entry Into Controlled Airspace	**8**
Weapons Violations	**3**
Departure Clearance Deviation	**2**
Taxied on Active Runway Without Clearance	**1**
Low Flight Over Open Assembly	**2**
USAASO determined both of these not to be violations and so informed the FAA.	
Hovered Too Close to Civil Aircraft	**2**
USAASO determined one of these not be be a violation and so informed the FAA.	
Failure to Close Flight Plan	**1**
Landed on Wrong Runway	**1**
Total Alleged Violations Last 2 Years	**40**

USAASO invites your questions and comments and may be contacted at AUTOVON 284-7773.

CRISIS SUPPORT

Emergency relief controllers handled extreme volumes of air traffic at Valdez, AK, airport.

AIR TRAFFIC controllers of the U.S. Army have proven many times over they are an integral part of the aviation team by proving that they can be counted on during any crisis situation. A recent example of this occurred on 24 March 1989 when the oil tanker, *Exxon Valdez*, hit a reef outside of Valdez Harbor, AK, and spilled 10 million gallons of crude oil into Prince William Sound. This caused traffic at Valdez airport to swell from 10 to more than 400 movements a day. The Federal Aviation Administration (FAA), not having any controllers or radio equipment at Valdez, requested support. A team from 2d platoon, A Company, 2/58th Aviation Regiment, Ft. Wainwright, arrived at Valdez Airport Easter Sunday and found a boarded up control tower that had been inactive since 1979. Working in conjunction with FAA personnel, a TSQ-97 (tactical control tower) was placed into operation by the team and remains the primary radio package to date. In addition to controlling traffic at Valdez tower, a controller was flown to the grounded tanker to control traffic orbiting the spill site. During its peak hours, 687 movements were handled in 1 day on the single runway facility. The traffic count has since stabilized at 300 to 400 movements per day with an even split between fixed- and rotary-wing aircraft.

U.S. Army Aviation Center Flight Surgeon of the Year

Captain (Dr.) John P. Albano, officer-in-charge of the Allergy Immunology Clinic at the Army Aeromedical Center, was selected Flight Surgeon of the Year for the Army Aviation Center by the Society of U.S. Army Flight Surgeons.

CAPTAIN (DR.) JOHN P. ALBANO, officer-in-charge of the Allergy Immunology Clinic at the U.S. Army Aeromedical Center, Ft. Rucker, AL, has been selected Army Aviation Center Flight Surgeon of the Year. He was selected for the honor by the Society of U.S. Army Flight Surgeons for best representing the high ideals and standards set forth in Army Aviation medicine.

CPT Albano was nominated by Lieutenant Colonel Steven F. Rausch, commander, 1st Battalion, 212th Aviation Regiment, Aviation Training Brigade. LTC Rausch's recommendation noted that CPT Albano has cared for more than 5,000 patients. He also has provided emergency medical care and oncall support for aircraft mishaps. In the fall of 1988, he assisted the 46th Engineer Battalion Aid Station and made sure the individual soldier received the best possible medical care.

LTC Rausch added that CPT Albano has established the only military allergy service in southern Alabama and northern Florida. Also, he helped a comprehensive quality assurance program for the Allergy Immunology Clinic and the medical evaluation service.

CPT Albano was honored with other Command Flight Surgeons of the Year—Colonel Jose I. Carrasco, Army National Guard; CPT Bernard D. Borosky, U.S. Army, Korea; CPT James Sheehy, Health Services Command; CPT Jeffrey E. Short, U.S. Army Forces Command; CPT Gary Wilhelm, U.S. Army, Europe; and Chief Warrant Officer, CW2, Robert L. Dougherty, Aeromedical Physician Assistant. Major Stephen C. Craig, Special Operations Group, won the overall Flight Surgeon of the Year Award.